NEW REMEDIES.

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EDITORIAL.

THOSE who have had much to do with medical literature during the past ten years cannot have failed to notice an increase in the number of pamphlets on all sorts of subjects, which have been published by the authors of papers. We do not know that we are especially favored in the receipt of this class of literature; but, either privately, or in editorial ways, we do accumulate a large amount of it in the course of a year, and have been obliged to solve the question, "What will he do with it?" by binding. One difficulty which meets us at the outset is the variation in sizes. The majority of writers have been sensible enough to adopt the octavo form of pamphlet; but there still remains a provoking number who publish larger and smaller sizes, embracing oftentimes papers of great value.

There are many reasons for having a variety in the proportions of bound volumes, but these considerations will hardly apply to pamphlets. In the case of larger sizes, the binder's knife generally corrects the difficulty at the expense of the margins, but the small ones can only be *stretched* by pasting each leaf into an octavo sheet, which has a hole in its centre large enough to permit the text on the back of the leaf to be read. This involves considerable expense, and is not likely to be done unless the pamphlet is of unusual value. If our friends who wish to republish papers which have once appeared in journals having double-column pages, like the *Medical Record, Louisville Med. News, Amer. Bi-Weekly, Medical Times, Med. and Surg. Reporter, Clinic*, or NEW REMEDIES, would have the column leaded and broken up, so as to occupy the centre of an octavo page, having a broad margin on the outer and lower edges, similar to the large paper copies of choice editions, this difficulty would be at once overcome, and the pamphlets would really be handsomer in the estimation of a lover of books than those having the usual arrangement of an octavo page. Another advantage to be gained by the plan proposed would be the use which can be made of the broad margins for the addition of notes and references by those who chose to make them.

THE attention of members of the American Pharmaceutical Association is urgently requested to the following extract from our report of the Transactions of the Association given in the September number:

"Dr. Ad. W. Miller, of Philadelphia, the local secretary during the centennial year, made an important report on the unexpended balance in the hands of the Entertainment Committee of Philadelphia, in which he stated that a sum of $525.00 had been left over, which the committee tendered to the American Pharmaceutical Association, *provided* a like amount be added to it by the members of the association within one year from this session. This fund shall be known as the 'Centennial Fund,' and shall be applied to defray the actual expenses incurred by members in the pursuit of original investigations on behalf of the association."

The time is likely to slip by and the next meeting be in immediate prospect without the necessary steps having been taken to raise the amount mentioned. We believe that with little effort the money could be collected from members residing in two or three of our large cities, excepting, of course, Philadelphia, but the object to be accomplished is so closely connected with the interests of the profession generally, that it is quite desirable to have all who *can* contribute. To further this end, we shall be pleased to receive and publish the names of members of the association who will aid in raising the $525.00; together with the amount which they will be prepared to give when called on.

ANOTHER word on the subject of preparing journals for the mail. We would be extremely pleased if some of our contemporaries would abandon the practice of rolling their publications up like sections of a broomstick, instead of sending them flat, or with a single fold. It is a trial of both flesh and spirit to get the wrappers off, and next to impossible to prevent the journals curling up forever afterwards. We try to preserve our exchanges in good order for future reference, but

confess to a temptation to consign to the waste-basket such intractable ones as will not lie in an orderly pile with their fellows.

OUR correspondents are respectfully requested to read the paragraph in italics which has for a couple of years appeared at the head of the column of "Notes, Queries, and Answers." It is not out of place in this connection to suggest that it is always advisable for them to mention the State in which they live, as well as the town, since the post-marks on the envelopes are not always legible.

THE Chicago Botanical Garden, concerning which we expressed ourselves so hopefully on page 292 of our last volume, has come to grief. After providing for its foundation, and enabling those who undertook its direct management to accumulate a large and valuable amount of material, the Commissioners of the South Park have ceased to recognize the political necessity for such an institution, and have suspended the appropriation of funds.

Upon the whole, Professor Babcock and his friends may congratulate themselves that they have saved their valuables from the fate which overtook the restorations of Mr. Waterhouse Hawkins in this city, and we hope they will take advantage of the truce to get them safely beyond the reach of political demagogues who, like the *honorable* Peter B. Sweeny, may probably see no better use for such "rubbish" than to fill up holes in the ground with it.

We would be glad if New York could offer an asylum, but for many reasons the prospect of a botanical garden here seems almost hopeless. In 1810 the Legislature of the State appropriated $74,268 for the purchase of the Botanic Garden which had been established by Dr. David Hosack (then Professor of Botany in Columbia College), which embraced about twenty acres; but immediately upon securing the money Dr. Hosack abandoned the study of botany for more lucrative employment. The garden was neglected by the College of Physicians and Surgeons, whose duty it became to care for it; the plants which survived were sent to the Bloomingdale Asylum, and we believe that Columbia College is receiving a handsome annual rental for the land, which is now covered with the most fashionable residences on the island. In view of the latter fact, one would naturally look to Columbia College as the first to lead a movement towards the establishment of such a valuable aid to science and education, but judging by the course usually pursued by rich corporations like that of Columbia College and the New York Hospital (whose governors, by the way, were actively interested in urging the State to purchase the garden of Dr. Hosack), any movement of this kind will be fortunate in avoiding their opposition, to say nothing of the assistance they might render.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

Fucus Vesiculosus and its Use in the Treatment of Obesity.

EXCESSIVE fatness has never been a noticeable characteristic of residents in the United States, and it is not easy to explain why it is that attention has recently been directed to the merits of certain remedies which are supposed to relieve this condition. It may be that the organization, a few summers ago, of a fat-men's club, which has since held annual meetings, and eaten annual dinners not within Mr. Banting's rules, has had something to do with it, but the connection is not very apparent. The remedy which claims at present

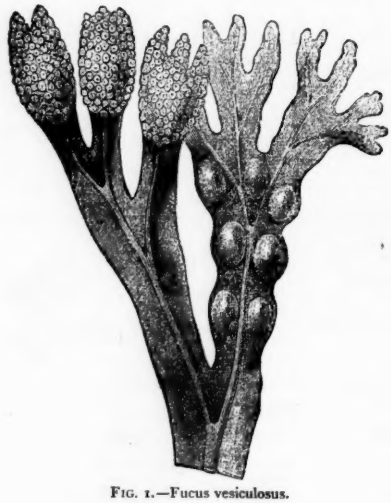


FIG. 1.—Fucus vesiculosus.

most attention is the "bladder-wrack" (*Fucus vesiculosus* Lin.); one of the most common sea-weeds found on the coasts of Europe and America. For many years this and similar kinds of sea-weed have been the source from whence *kelp* is obtained, and their richness in iodine has led to their being sometimes employed in strumous affections and chronic skin diseases.

About the year 1862, Dr. Duchesne-Duparc, while administering a preparation of "bladder-wrack" in a case of chronic psoriasis, observed, quite unexpectedly, that although the skin trouble was not benefited, the patient, who was the subject of excessive obesity, lost flesh without suffering any disturbance of the general health. Subsequent to his paper on the subject (which appeared in the *Medical Times*, of April 10, 1862), Dr. Godefroy published in the *Rev. de Thérap.* of Sept., 1862, the results obtained by per-

sonal use of the remedy. In this instance 4½ grs. of an extract were taken thrice daily at the commencement of a meal, with the effect of reducing his weight nearly three and one-half pounds within thirty-four days. No change was made in the meantime in the ordinary mode of living, nor did his health suffer in any degree.

The most marked evidence of the action of the drug besides the loss of flesh, is said to be an increased secretion of urine, which presents upon its surface a blackish film.

These two papers embrace about all that has been written upon this use of the remedy, if we except the directions given by M. Dannecy * for preparing an extract. He says that the plant should be gathered about the end of June, and dried in the sun. When dried by artificial heat it does not become brittle, as it does when sun-dried, and it also retains its hygroscopic properties.

FIG. 2.—Fucus nodosus.

When sufficiently dry it is coarsely powdered and macerated for three days with four times its weight of alcohol of 96%. At the end of this time it is expressed and the residue is twice successively treated in the same manner with alcohol of 54%. The tinctures are then mixed, the alcohol distilled off, and the remainder evaporated to an extract. Of this, 3¾ grains may be taken three times daily, and increased gradually to about three times that quantity. A syrup may be prepared by dissolving the extract in a little dilute alcohol and adding this to syrup in the proportions desired.

M. Duchesne-Duparc says that he has repeatedly been offered other varieties of *Fucus* and gulf-weed under the impression that they were the proper variety; and since he claims that the property of causing an absorption of fat-tissue resides largely if not entirely in *F. vesiculosus*, we give herewith illustrations which will render it easy to distinguish the latter from the varieties which resemble it.

The name "wrack" which is commonly given to the plants here shown, in the Channel Islands is *vraic*, and this is derived from the French *varec*, signifying *sea-weed*. A visitor to the sea-shore will find the rocks at low water covered with dark olive-green sea-weed, presenting a variety of shapes, and after a heavy wind great quantities of these, with other forms of vegetable and animal life, will be left on the beach in long rows formed by the wash of the waves. The Black Tang, or Bladder Wrack, is generally the most common in these collections. Its fronds are sometimes two or three feet in length, and fork again and again into what

FIG. 3.—Fucus serratus.

may be called branches. A stout midrib runs through the centre of each branch quite to the extremities of the fronds. Arranged in pairs along the branches, as shown in Fig. 1, are warty tubercles filled with air, which render the "wrack" buoyant. The tips of some of the fronds are swollen and covered with little tubercles, which when examined closely, will be found to contain the germs of the plant.

The "Knotted Wrack" (*Fucus nodosus*), shown in Fig. 2, differs essentially in appearance from the variety just described; nevertheless it is very commonly mistaken for the *F. vesiculosus*, and Duchesne-Duparc attributes much of the reported want of success to the use of it instead of the proper variety.

Serrated wrack (*Fucus serratus*), Fig. 3, is a third

* *Journal de Pharmacie*, Nov., 1862, p. 434.

and less common variety, but is nevertheless sometimes mistaken for the one above-mentioned. A midrib is present in its branches, which is not the case with *F. nodosus*, but it possesses no air-vesicles, and the edges of the fronds are jagged or serrated like the teeth of a saw.

When not to Give Iron.

Dr. Milner Fothergill says (*The Practitioner*) that as long as there is a rapid pulse combined with rise of temperature, so long must iron be withheld in the treatment of acute disease. As long, moreover, as the tongue is thickly coated, or red and irritable, it is as well to withhold chalybeates altogether. This is particularly true of phthisis. No matter what the other indications are, it is useless, and sometimes worse than useless, to give it without the tongue be clean, without irritability.

It may be laid down as a general rule that this toleration of iron diminishes as the age increases. Young children take iron well, and it is often well borne by them in conditions which in the adult distinctly forbid its use.

There is one condition where iron is absolutely forbidden, and that is the condition known as biliousness. As long as there is a foul tongue, a bad taste in the mouth, and fulness of the liver, with disturbances of the alimentary canal, iron is not only of no service, but positively does harm. Sir Joseph Fayrer's Indian experience is in full accord with this expression of opinion. In speaking of the treatment of hepatic congestion, accompanied by anæmia, he lays stress upon the resort to purgatives and vegetable tonics, and the avoidance of iron until the biliary congestion is removed. "When the portal circulation is relieved some preparation of iron may be useful."

When given in large doses iron always blackens the stools, but if given in moderate doses and well assimilated, this blackening is not so marked. The color of the stools, then, may be utilized as an indicator as to how far chalybeates are assimilated and are likely to be useful.

There are two different states in women where iron is either totally contraindicated or to be given with great caution. The first is a condition of amenorrhœa in florid, plethoric persons. The other is the opposite condition of menorrhagia in certain females. There are certain cases of menorrhagia associated with pallor and debility, where the usual compound of iron and extract of ergot is not so useful as a non-chalybeate treatment. In these cases it is not any imperfection in the process of blood manufacture which is to be remedied, for the blood is made rapidly and quickly, only to be lost at each menstrual period. It is here desirable rather to limit the rapidity of the blood formation, so that when the general vascular turgescence of the menstrual period comes, it will not find the blood-vessels too distended with blood. This will lead to diminished catamenial loss, and so the blood-waste will be economized. According to the experience of Dr. Brown-Séquard and Dr. Hughlings Jackson, iron does not suit epileptics. It increases the tendency to fits. It may improve the general condition, but it aggravates the epilepsy.

The Adulteration of Expressed Oil of Almonds.

Mr. J. D. Bieber, of Hamburg, has ascertained that the larger portion of the commercial expressed oil of almonds (oil of sweet almonds) is either adulterated or entirely fictitious. In the most favorable cases peach-kernel oil is substituted in its place. The admissibility of the oil obtained from peach- and apricot-kernels might possibly be defended on the ground that the latter are nearly alike in chemical composition [?] and in price to the small Barbary almonds. The author has succeeded in finding a reliable reagent to distinguish the pure almond oil from sophistications. His results are based on experiments made with the oil of sweet as well as bitter almonds of all commercial varieties, and on those made with other oils. It was first ascertained that the age of the almond oil, or its manner of preparation (by cold or hot pressing), was of no influence upon its chemical behavior towards the reagent. This latter is prepared by mixing equal weights of pure concentrated sulphuric acid, red fuming nitric acid, and water, and allowing the mixture to cool. Mixtures made with five parts of oil and one part of the acid show the following characteristics:

Pure almond oil: a faintly yellowish-white liniment.

Peach-kernel oil: assumes at once the color of peach-blossoms, turning afterwards dark orange.

Sesame oil: first pale yellowish-red; afterwards dirty orange-red.

Poppy oil and walnut oil: a somewhat whiter liniment than pure almond oil.

Mixed with pure nitric acid of 1.40 specific gravity the behavior is as follows:

Almond oil: pale yellowish liniment.

Peach-kernel oil: at once a red liniment.

Sesame oil: dirty greenish-yellow; afterwards reddish.

Poppy oil and walnut oil: an entirely white liniment. With the first-mentioned reagent (mixture of acids and water), an addition of five per cent. of peach or sesame oil may be readily recognized. By making a series of mixtures of almond and peach oil, differing by ten per cent. among themselves, it is easy to discover, with tolerable accuracy, the proportion of the two oils in an adulterated sample. In order to distinguish whether the foreign oil was sesame or peach oil, the reaction with nitric acid of 1.40 specific gravity is had recourse to. Besides the above-mentioned substitutes, there exist some other oils, chiefly prepared in France and Italy, which greatly resemble almond oil, and might be used as adulterants. One of these is the fatty oil expressed from the seeds of the stone pine (zirbel nuts, pine nuts), which has, however, not been examined by the author.

[A very common sophistication, namely, oil of mustard, has not been mentioned by the author; but it is well known that it is often sold for sweet almond oil. Ed. N. R.]—*Pharm. Zeit.*, No. 79.

Paquelin's Cautery.

Besides Tarnier's obstetrical forceps, the instrument which is attracting most attention in France just now is Paquelin's cautery. There are few things in the way of surgical operation that have not been attempted with it; even tracheotomy and external urethrotomy have been undertaken, so it is said. The instrument consists of the following parts:

1st. The cautery proper is made of a single sheet of platinum, the edges of which are joined without solder, and may be of different shapes to suit the various cases for which it is employed. It is mounted on the end of a nickel-plated copper tube, the free extremity of which is pierced with holes to allow the gases of combustion to escape,

Paquelin's Cautery.

both together forming a hollow tube, closed at one end and open at the other.

Through this runs a smaller metallic tube from one extremity to the other, and projecting a short distance from the lower end, where it terminates in a male screw.

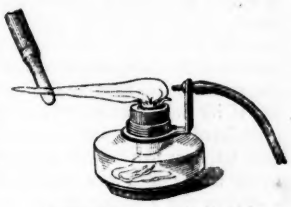
2d. A wooden handle with a cup-shaped shield, through which runs a metallic tube terminating at one end in a female screw, to which is attached the cautery, and at the other end in a cone.

3d. A thick rubber tube, one end of which is slipped over the cone at the end of the handle, and the other end is attached to one of the tubes in the flask.

4th. A flask with a rubber stopper, through which run two tubes which are joined at their lower extremities.

5th. A rubber tube with two bulbs similar to that used with Richardson's atomizer, the end of which is attached to one of the tubes in the flask as shown.

6th. A spirit-lamp, with a blow-pipe attached to it.



Lamp with blow-pipe attached.

The method of operation is as follows: Fill the flask two-thirds full of gasoline of a specific gravity of 720 grammes to the litre, and fix the stopper firmly. Attach the rubber tube to the blow-pipe. Then heat the extremity of the cautery in the flame of the lamp until it becomes slightly red, then blow gently by compressing the bulb until the cautery becomes bright red, when the tube must be removed from the blow-pipe and attached to the handle of the cautery, and the instrument is ready for use; its heat may be increased or diminished, according as the current is kept up by compressing the bulb quickly or slowly, a volume of gas mixed with air being forced into the hollow chamber of the cautery, where it ignites upon contact with the hot metal, and thus serves to keep up the heat of the instrument.

Easy Preparation of Platinum-Black.

An exceedingly active platinum-black, for converting alcohol into acetic acid, or for igniting hydrogen gas may be prepared, according to Prof. R. Böttger, as follows: To a solution of platinum chloride is added a just sufficient quantity of Rochelle salt, and heat is applied. As soon as the boiling-point is reached, carbonic acid gas is given off with great energy, and metallic platinum in very fine powder is immediately separated. This is collected on a filter, washed and dried at the ordinary temperature, when it is ready for use.—*Pharm. Centralh.*, 1877, 218.

Importance of Labelling Medicines.

In a paper read by Dr. R. C. Kedzie before the Michigan State Board of Health, at Lansing, on the 9th of October, the writer included the following sensible remarks:

"It has been proposed to have bottles made of different and characteristic forms for different kinds of medicines, that they may be distinguished by the touch, and thus recognizable in the dark. My advice is, not to go in the dark in any sense on so important a subject. In my opinion the only safe and feasible way to prevent accidents in the use of medicines is to label every medicine, giving the name and dose. If a medicine is not worth labelling, it is not worth keeping; label or burn. If from any cause a medicine has lost its label, or has never been labelled, never administer it to

any person or animal in whose happiness, health or life you feel any interest or care. Never trust to your memory on this subject, or to the position in which you usually place a given bottle of medicine. Be sure you are right before you go ahead in administering any medicine whatever. The patient may die for want of medicine, but you have the consolation that he did not die by your act; but if he dies because of some substance you have mistakenly administered as medicine, your soul will be harrowed with unavailing remorse, more bitter than death and more cruel than the grave." —From the *Detroit Post*.

Detection of Tartaric in Citric Acid.

MR. CAILLETET recommends the following easy and practical method to recognize the presence of tartaric in citric acid. It depends upon the fact that potassium bichromate, in the cold, rapidly blackens tartaric acid, with disengagement of carbonic acid; its action on citric acid, on the other hand, is very slow, and results in imparting to it a coffee-colored tint. A cold saturated solution of potassium bichromate is prepared. Into a test-tube 10 c.c. of this solution and 1 gm. of the acid to be tested are introduced, and the mixture is stirred for a moment with a glass rod. After ten minutes, if the citric acid was free from tartaric acid, the mixture will still show the orange color of the bichromate. If, however, five per cent. of tartaric acid were present, the mixture will have assumed a blackish-brown color, and in presence of only one per cent. it exhibits the color of an infusion of coffee.—*Rép. de Pharm.*, 1877, 502.

Grindelia Robusta and its Use as a Remedy for Ivy Poisoning.

JAMES G. STEELE, of San Francisco, writes to the *Scientific American* that the Rhus toxicodendron is a very common cause of a great deal of misery and suffering in California, and contributes a paper on the properties of Grindelia robusta as a remedy, from which the following is taken:

"Dr. L. A. Canfield (deceased) of Monterey, Cal., was the first," so Mr. Steele says, "to call the attention of the medical profession to the therapeutic action of *Grindelia robusta* in cases of 'Oak Poisoning.' Some twelve years since he caused to be published, in the *Pacific Medical and Surgical Journal*, a short account of this plant, its botanical features, habitat, and medicinal value. My attention being thus directed to the plant, I procured specimens, and prepared various pharmaceutical compounds containing the virtues of the drug, which were prescribed by the medical faculty of this city, with sufficient success to warrant me in keeping a bountiful supply of the plant. It has been my practice yearly, during the months of May and June, to go into the rural districts and have gathered and dried in the shade one or two tons of *Grindelia robusta*.

"I have experimented in different ways to obtain a "Fluid Extract" which should fully represent the medicinal virtues of the leaves and flowering tops of the plant. The fluid extract, which is the most concentrated form of preparation used, contains in one pint the strength of sixteen troy ounces of the drug, and is made by the following process: A sufficient quantity of the carefully picked leaves and tops of the Grindelia are put into a suitable vessel and nearly covered with a mixture of one part of water to two of alcohol, allowed to macerate for twenty-four hours, a strong cover being laid over and pressed down with appropriate weights. At the expiration of this time the whole is transferred to a percolator with a stop-cock attached; and after remaining for five or six hours, the resulting liquid is drawn off and the residue in the percolator taken, transferred to strong bags, and submitted to the action of a powerful press. The liquid from this is now mixed with that from the percolator and set aside. It is generally requisite to repeat the process with one-half the amount of menstruum, and the results being mixed together should measure one pint for every sixteen troy ounces of the drug employed. In case, however, the full measure is not obtained, enough alcohol is added to supply the deficiency, and the whole rapidly filtered and transferred to well-stoppered bottles. This process gives a clear, thin, nice-looking fluid extract, with a pleasant odor and characteristic aromatic taste, and which can be kept a long time, with usual precautions, without any deposit. It may be presumed that the medicinal virtues of the *Grindelia robusta* reside in the viscid and resinous juice before mentioned. Confirmatory evidence offers itself in the fact that the plants gathered from the lower and marshy grounds are more robust and succulent, the leaves and stalks larger and coarser in appearance and devoid almost entirely of the "balsam" before mentioned, and have little efficacy in the eruption of Oak Poisoning. The directions for its employment are as follows:

"For Poison Oak eruption, the best method is to mix one or two teaspoonfuls of the strong fluid extract of Grindelia with half a tumbler of cold or tepid water, and apply freely with a sponge or cloths dipped in the mixture to the parts affected. One or two applications will often suffice for a cure, but if the disease has been of long duration, several days may elapse before entire relief is obtained. In severe cases of poisoning, cloths dipped in the solution may be bound upon the parts and, if necessary, more of the fluid extract added. The most obstinate case of poisoning will be overcome by this mode of treatment, and immediately after the first application the most surprising relief is experienced. Another medicinal use has been found for *Grindelia* and its preparations. *Asthma* and kindred ailments have been made to succumb in a remarkable manner. For fear of tiring the patience of your readers and with a due regard to the value of space, I will forbear further mention of this, save to remark that in case it may prove of interest to excite inquiry, something

could be written of our experience of the value of the drug in this connection.

"The *Grindelia robusta* and its various medicinal preparations can be found in well-appointed pharmacies in the large Eastern cities; and in case none is to be had at hand, application to the writer will result in discovering a way to procure it in any desired quantity."

Notes on Chemical and Pharmaceutical Products.

(Condensed from the September Report of Gehe & Co., of Dresden.)

Carbolic Acid, crystallized.—It is impossible to guarantee its absolute freedom from color, after long keeping, since air and light exert a considerable influence upon the pure acid. The usual method of packing in blue glass is incapable of preventing this change, and is only apt to deceive purchasers by masking any acquired tint. Its sole usefulness, perhaps, consists in attracting attention to the dangerous contents.

Copaivic Acid, crystallized, has been in considerable demand during the last six months.

Gallic Acid.—While on the one hand science has recognized this substance to be a prior step in the production of tannic acid, it is in practice a secondary or by-product in the preparation of the latter, and hence exceedingly low in price.

Lactic Acid.—The hypnotic effects of this acid, which were predicted by chemical physiology, have been confirmed. But the simultaneous disturbance of digestion, resulting from its frequent use, has perhaps done as much damage on one side, as it has benefited the patient on the other.

Phtalic Acid.—This acid, which is so important in the preparation of some aniline colors, is at present in great demand. (See page 261.)

Salicylic Acid.—The consumption of this article for technical purposes has considerably increased. Its use in the conservation of ale and beer has become particularly important. Experience has shown that by adding the acid to the fermenting tubs, a good deal less is needed than when it is added to the beer in casks. In the former case only 60 milligrammes per litre are required, in the latter case, 120–150 milligrammes. Besides, it is asserted that the yeast obtained in presence of the salicylic acid keeps much better, and is not at all injured as a fermenting agent.

Ammonium phosphate is in increased demand for the impregnation of stearin candle-wicks, as is also *Ammonium sulphate* (purified).

Amyl nitrite and *Amyl nitrate* are both in good demand. It may be of interest to mention that the compound called *nitro-pentane* (NEW REM., vi., 236), which is isomeric with amyl nitrite, has a similar action with the latter.

Nitrate of Silver.—The great number of varieties of caustic sticks has lately been increased by an additional one, namely, a mixture of 90 parts silver nitrate with 10 parts of silver chloride. It is, however, doubtful whether the effect of this compound is entirely identical with that of the pure nitrate. [The admixture of 5 per cent. of chloride of silver has been in common use for many years in the United States, and has never yet been found fault with.] Gehe & Co. think the best addition still to be 1–2 per cent. of potassium nitrate. An entirely black caustic, in very long thin pencils, is in use in France. This was found to contain 2½ per cent. of potassium nitrate, and 2 per cent. of prepared manganese peroxide.

Bismuth subnitrate.—The common complaint about the presence of ammonia in this salt, according to late observations, appears to be due to the fact, that bismuth, like zinc, decomposes water in presence of nitric acid, and thereby brings about the conditions necessary to the formation of ammonia.

Quinia.—Crude quinine (Chinium crudum) was in good demand. This is an amorphous mass, somewhat resembling chinoidine, and occurs also as a sulphate, forming a very hygroscopic yellow powder. Still more inquiry is made after the much purer substance, "Quinetum" (NEW REM., v., 38), and its salts. This is a yellowish-white powder, contains all the crystallizable alkaloids (chiefly cinchonidia) of the bark of *Cinchona succirubra*, grown in the East Indies. It is a specialty manufactured by Mr. Whiffen in London, and is much used all over India.

Chloroform.—The price of this article is lower at present than at any previous period. Its use is gradually extending for technical purposes.

Codeia.—Invoices of Persian opium have reached Europe, which were found to be very rich in codeia. One lot contained as much as 1.4 per cent.

Cotoin.—The effect of this principle in diarrhœas is highly lauded. It is said to be of special service in cases where the use of opium is contraindicated.

Copper Sulphate.—Pencils turned on a lathe from large and hard crystals are still the best form for external use. Various attempts for preparing pencils or cones, by means of fusing copper sulphate with other substances, as potassium nitrate or alum, may be regarded as successful so far as the form is concerned, while, on the other hand, their caustic effect is much impaired.

Dialysed Iron, if prepared by dissolving precipitated ferric oxide in a solution of ferric chloride, can never be as basic as when made by dialysis. Even in the latter case, under the most favorable circumstances, the finished product contains two parts by weight of ferric chloride for every twenty-three parts of ferric oxide.

Inulin is in some demand as a remedy for diabetes mellitus.

Pancreatin ("vegetable ptyalin"), that secretion of the pancreas which is capable of converting a large quantity of starch rapidly into glucose, and which formerly was only sold in form of a glycerole, is soon expected to be offered in the market under the form of a pure dry greenish powder.

Phosphorus.—The consumption of the amorphous variety, both as a chemical auxiliary in the

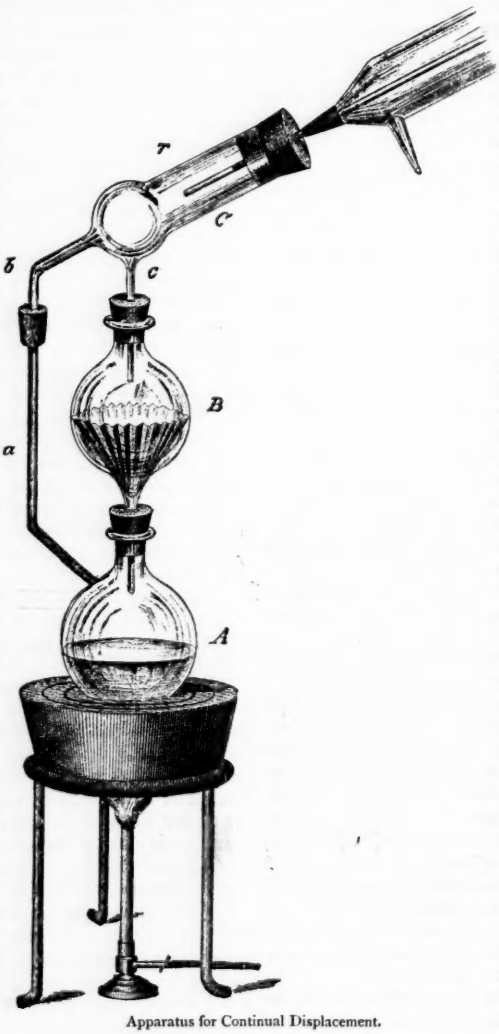
manufacture of colors, and in the preparation of matches, has again increased.

Pilocarpine hydrochlorate has been in extraordinary demand. It is particularly used in hypodermic injection; and as it is now prepared in form of a pure white salt, is likely to supersede the use of jaborandi leaves altogether.

Salicin.—In consequence of the active demand during the quinine famine of last year, the price for the crude material, especially the bark of *Salix Helix* (the interior of which, after drying, has a yellowish-red color) has attained an altogether exorbitant height.

Vanillin.—In proportion to the decrease in the price of vanillin, the demand for it appears to have diminished. The delicate perfume of pure vanillin is said to be too volatile and evanescent. The original principle, as it exists in the vanilla bean, being intimately associated with a soft resin, itself aromatic, appears to be much more lasting.

Zinc valerianate.—Compelled by the demand, Gehe & Co. announce that hereafter they shall keep in stock two qualities: one, made by themselves, containing precisely the amount of zinc which the German Pharm. prescribes [100 parts of the salt should contain nearly 30 parts of zinc oxide]; and another commercial quality, containing only one-third as much zinc as the Germ. Ph. demands, but a proportionate amount more of water of crystallization. Both qualities differ in appearance. The crystals of the former are opaque and have a silvery lustre; those of the latter are almost transparent, less white, and devoid of lustre.



Apparatus for Continual Displacement.

A New Apparatus for Continual Displacement.

In our April number, p. 108, we figured and described an apparatus constructed by P. Cazeneuve and O. Caillol for the exhaustion of solid powdered substances by means of volatile menstrua. A similar apparatus, devised by E. Drechsel, which has, however, some advantages over the other, is shown in the annexed cut. It consists of three parts: The flask, *A*, the globe-funnel, *B*, and the adapter, *C*, which is itself connected with a return-condenser. The flask, *A*, is provided with a lateral, rather wide glass tube, *a*; the funnel, *B*, is somewhat smaller in capacity than *A*, has a neck about 20–25 mm. (about 1 inch) wide, and a tube which is cut off obliquely at the bottom. The construction of *C* is evident from the figure, it being only necessary to remark that the end of the tube, *b*, is joined to the lateral tube, *a*, of the flask by means of a well-fitting cork, and that the proper adjustment of the ends of both tubes may be accomplished by boring the holes in the corks of the flask, *A*, and of the funnel, *B*, somewhat eccentrically, so that a simple turning of one or the other may bring about the correct position. A finely-plaited filter having been introduced into the funnel, the substance to be exhausted is placed into it; the liquid to be used, such as chloroform, alcohol, ether, benzol, etc., is introduced into the flask, and, after all connections have been made tight, heat is applied by means of a water-bath.

The whole apparatus may then be left to itself until exhaustion of the substance is complete. — *Zeitschr. für Analytische Chemie*, from *Journ. f. prakt. Chem.*, 15, 350.

Preparation of Alkaline Nitrites.

Besides the theoretical, or at least impracticable process for preparing nitrites, which consists in heating nitrates to redness, two practical methods are known, namely, either to conduct the vapor of nitrous acid into the solution of an alkali, or to decompose lead nitrite by an alkaline carbonate.

The product obtained by both processes, however, is frequently contaminated with arsenic, arising either from the impurities of the lead, or from the employment of arsenious acid in preparing the nitrous acid.* These drawbacks are increased by the difficulty of keeping up a steady and regular current of nitrous acid gas, and also by the high atomic weight of lead.

There is, however, a method of preparing nitrites which is free from these objections, and which consists in reducing nitrates by means of potassium or sodium sulphites in the dry way. It is only necessary to fuse the two salts in equivalent proportions in a crucible. The reaction is as follows :

$$KNO_3 + K_2SO_3 = KNO_2 + K_2SO_4$$
pot. nitrate + p. sulphite = p. nitrite + p. sulphate.

The fused mass is treated with alcohol, which easily dissolves the nitrite, but does not dissolve the sulphate. If a slight contamination of sulphate does not interfere with the use of the nitrite, the mass may also be dissolved in water, and the solution evaporated so that the sulphate may crystallize. The mother-water will then yield the nitrite, accompanied by a small quantity of sulphate.—*Zeit. d. Oest. Ap. Ver.*, 1877, 426.

Glycyrrhizin as a Disguise for the Taste of Quinia.

Lester Curtis, M.D., writing to the *Chicago Medical Journal* on the above subject, gives Remington's formula, which has been employed for this purpose, and which may be found among the formulæ on page 189 of this volume. He then goes on to remark as follows :

"This prescription is complex, cannot be prepared extemporaneously, will mask only a small quantity of the quinine, and offers no advantages over the glycyrrhizin in substance. If a small quantity of glycyrrhizin be taken in the mouth, quinine can be taken afterwards without perceiving the slightest bitter taste, the drug is masked perfectly, it is as tasteless as chalk, and not nearly so disagreeable to take ; nor does any disagreeable taste return in the mouth. A very large dose of quinine may be covered in this way.

"It is a very great convenience to combine the substances, so that they may be given in one dose. This may be accomplished by suspending the quinine in a solution of the glycyrrhizin. A grain of glycyrrhizin will cover the taste of a grain of quinine, and two grains of glycyrrhizin will dissolve in a drachm of syrup. I usually make a mixture, consisting of fifteen grains each of glycyrrhizin and sulphate of quinine, in an ounce of simple syrup. This mixture will give nearly two grains of quinine to the drachm, and in it the taste of the quinine is almost perfectly disguised ; there is a slightly bitter taste, but it is not at all disagreeable and leaves the mouth in a short time. This mixture is a tolerably permanent one ; the quinine will not settle to the bottom for two or three days, and when it does settle, it may be shaken up and used nearly as well as though freshly prepared.

"Children and fussy women take this mixture not only without objecting, they even like it.

"If it is desired to use a larger proportion of quinine to the ounce, the syrup must be mixed with water in order to dissolve the larger quantity of glycyrrhizin necessary to cover it. I have used as much as thirty grains of quinine to the ounce of the mixture, giving nearly four grains to the drachm. The disguise, however, is not as complete as in the other mixture ; and, as a considerable quantity of water must be used, the quinine is not held in suspension as well."

Citro-Thymate of Quinia.

Oil of thyme is known to consist of three principles, two of which are the hydrocarbons cymene ($C_{10}H_{14}$), and thymene ($C_{10}H_{16}$), and the other the oxygenated compound thymol ($C_{10}H_{14}O$), which is homologous to phenol. Thymol may be separated by treating the oil with solution of potassa, which combines with it, and sets free the hydrocarbons in form of a colorless liquid, boiling between 178° and 180° C., and possessing the odor of thyme. Thymol itself crystallizes in rhombic prisms fusible at 44° C., has a strong aromatic smell, not quite like that of the crude oil, and is very soluble in alcohol and ether. It is capable of combining, like phenol, with alkalies and alkaloids.

Mr. C. Pavesi has obtained a crystalline compound by treating quinia with thymol and citric acid. Four parts of quinia are introduced into a flask, and six parts of oil of thyme are added, together with enough alcohol to dissolve the whole. The flask is then heated on the water-bath for a few minutes, and after standing at rest for twelve hours, two parts of citric acid in powder are added. The whole is heated again, filtered, and the filtrate is evaporated to a thick syrup. On cooling a yellowish mass crystallizes out. This is dissolved in boiling water, treated with animal charcoal, and the solution filtered and evaporated at a low temperature. After standing for twenty-four hours the salt is obtained in handsome crystals.

Citro-thymate of quinia appears in very white crystals, is tolerably soluble in water, more so in boiling water, and very soluble in alcohol. It is very bitter, and has a taste remotely approaching that of thyme. By appropriate reagents the presence of quinia, thymol, and citric acid may be recognized ; but its exact composition has not yet been determined.—From *L'Union Pharm.*, 1877.

* That is, the fumes of nitrous acid generated during the oxidation of arsenious into arsenic, by means of nitric acid, are often utilized to manufacture nitrites.

The Distribution of Tetanic Poisons in the Vegetable Kingdom.*

BY PROF. THEOD. HUSEMANN.

In a former paper by the same author † it was shown that cardiac poisons appear to be characteristic constituents of the individual members of certain orders of plants. A similar correlation, hitherto but litttle noticed, exists between certain natural orders and a class of poisons which may be comprised under the name *tetanic poisons*, producing involuntary contractions of single muscles or of whole muscle-groups.

Tetanic poisons are generally divided into two classes, according as they affect the brain or medulla oblongata, or the spinal marrow. The former are characterized by producing momentary contractions of muscles, the nerves of which arise directly from the brain (muscles of the eyes, face, or jaw), but often extending over all the muscles of the body. A peculiar distinction of this class is the high degree of cerebral torpidity (sopor, coma) which accompanies the most violent muscular convulsions, making the latter in some cases assume an almost epileptiform character, owing to the deceptive movements of the maxillary muscles, and the not infrequent appearance of foamy saliva. This class may be designated specially as *cerebral tetanic poisons*, or, if they are to be named according to their chief representative, may be termed the *picrotoxin group*.

The other class comprises the *strychnine group*, or *spinal tetanic poisons*, producing an augmentation of the reflex function of the spinal marrow. The intoxication produced by this class of poisons differs from the former by the longer duration of the muscular contractions, and by the particular affection of the extensor muscles, corresponding to the various forms of tetanus proper, which are distinguished by pathologists.

During late years attempts have been made to bring about a fusion of these two classes of poisons, because it was difficult, in some cases, to draw a line between them. It has, however, been shown that the apparently anomalous behavior of certain of these poisons is owing to the fact that some of them do not belong to either class, that is, that their effect is not due, primarily, to an excitement of *central* nervous plexuses, but to a stimulation of the *peripheric* terminations of nerves. Bezold and Hirt first noticed this peculiar property in the case of veratria, but it is only since the investigations of Gergens (Strassburg), and Swaen and Putzeys (Holland) on the effects of guanidine (of animal origin), that the existence of this class of tetanic poisons has been proved.

Before discussing the individual tetanic families, it may be of service to draw attention to a fact, which is of great importance in forensic toxicology. It is commonly stated that the physiological test of a suspected poison is of the highest, and sometimes decisive importance. But this is an error; under all circumstances it is inferior to the chemical proof, provided the latter is based upon characteristic reactions, while the former can at most be regarded only as a confirmation of the latter. A substance, which has been eliminated from portions of a body, and is found to dilate the pupil of a rabbit, or to produce systolic cardiac paralysis of a frog, etc., can only be said to belong to a certain *class* of poisons, each member of which is capable of producing the same results. Should we obtain, by means of the physiological experiment, tetanic symptoms, the evidence is by no means conclusive, as to the particular poison in question. Besides, it must not be forgotten that the manifestation of symptoms may and does vary among different animals.

We shall now proceed to examine the distribution of tetanic poisons in the various natural orders. And here we find that the *spinal tetanics* are exclusively confined to two families, namely, *Loganiaceæ*, and *Papaveraceæ*, the latter of which, however, also furnishes representatives of the *picrotoxin group*, and thereby forms the transition to the families containing the *cerebral tetanics*.

1. Loganiaceæ (*Strychneæ*).

This family, which is closely related to the Apocynaceæ, so that many botanists regard it merely as a sub-order of the latter, contains various bases, which we may comprise under the name *Strychnos alkaloids*. Dr. Husemann thinks it highly probable that the seeds of *Strychnos Nux vomica* L. contain, besides strychnia and brucia, some other tetanizing poisons (probably alkaloids), acting on warm-blooded as well as on cold-blooded animals. He draws this conclusion from the fact, that some commercial varieties of brucia exert a tetanizing action upon frogs of ascertained normal irritability, while at the same time they are not contaminated with strychnia. It has only lately been ascertained that perfectly pure brucia paralyzes the peripheric nerve-branches, while formerly it seemed to act somewhat similar to strychnia, owing to its being employed more or less impure. It appears, therefore, that we possess already a physiological proof of the existence of other alkaloids, and indeed, as early as 1853, a third crystallizable base (*igasuria*) was discovered in nux vomica by Desnoix, which Schützenberger afterwards (1858) claimed was a mixture of no less than *nine* different alkaloids, differing in solubility and composition. But no reliable experiments have ever been made with Desnoix's alkaloids, and Schützenberger's statements require confirmation.

A careful chemical examination of the various plants of this family promises to yield interesting results. The unequal distribution of brucia and strychnia over certain members of the family, and even in various portions of the same plant, is already well known. False angostura bark con-

* Abstract of a paper in *Arch. der Pharm.*, Sept., 1877, p. 193 sq.

† *On the Distribution of Cardiac Poisons in the Vegetable Kingdom.* New Rem., 1877, pp. 3–5, 38–40.

tains a relatively much larger quantity of brucia than of strychnia; on the other hand, Dr. Aug. Husemann could not find a trace of brucia in the Upas Radja or Tieuté, the inspissated juice of *Strychnos Tieute* Lesch. Possibly one or the other Strychnos species may contain an entirely new alkaloid, and would then form a counterpart of the West African Akazga plant, the tetanizing principle of which was isolated by Frazer, and recognized as different from strychnia and brucia. The existence of the two latter alkaloids is proven, so far, only in *Strychnos Nux vomica* L., *Strychnos Ignatii* Berg., *Strychnos colubrina* L., and *Strychnos Tieute* Lesch.; and is highly probable also in *St. ligustrina* Blume. In addition to the latter, the following species need further investigation: *S. minor*, *S. axillaris*, *S. potatorum*, and *S. bicirrhosa*, all of them natives of Eastern Asia.

2. Papaveraceæ.

In this family we find one individual, namely, *Papaver somniferum* L., which undoubtedly contains in its inspissated juice (opium) tetanizing alkaloids. These are, however, less energetic than strychnia, or even brucia or akazgia. The most poisonous is thebaia, after which may be ranked successively laudanine, porphyroxine, and narcotine. The relationship of laudanine to the tetanizing poisons has been placed almost beyond doubt by the investigations of C. Ph. Falck (1874), but this is not the case with the two last-mentioned alkaloids. The chief reason why the results of investigators do not agree among themselves, is most likely to be sought in the fact, that the substances experimented with were mixtures of various alkaloids. From the researches of Falck, sen. and jr., it also appears that opium contains, besides spinal tetanics, a number of cerebral tetanic poisons, namely, codeine, hydrocotarnine, and laudanosine, all of which may be classed among the picrotoxin group. Dr. Husemann is able to confirm this statement, at least so far as codeine is concerned, because the convulsions produced are independent of the spinal marrow, and after the section of the latter, only continue in those parts, the nerves of which arise directly from the brain.

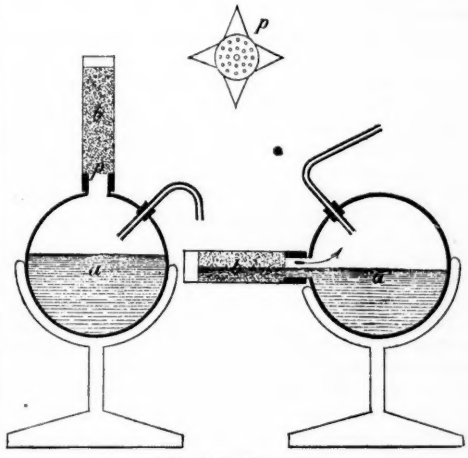
Quite lately an American investigator (Smith) has characterized another alkaloid, occurring in *Chelidonium majus* L., and in *Sanguinaria Canadensis* L., namely, sanguinaria, as belonging both to the tetanic and to the paralyzing poisons. Convulsions and paralysis are both referred to spinal action, but it remains doubtful in what manner the peripheric nerve-branches participate in the convulsions. Whether the other alkaloid discovered in blood-root, which has been denominated sanguinaria-porphyroxine, has physiological relationship to opium-porphyroxine, which it otherwise resembles, has not been decided. It is not impossible that some of the alkaloids discovered in *Glaucium luteum* Scop., and in *Eschscholtzia Californica* Cham., may likewise be found to have tetanic properties.

(To be continued.)

A Simple Gas-Generator.

A very simple apparatus, for generating gases, has been constructed by Max Süss, which is represented in the accompanying figure.

The vessel *a* is an ordinary globular receiver, of the capacity of 300–500 c.c. and intended to contain the acid. The upper vessel, *b*, which is to be charged with marble, zinc, ferrous sulphide, etc., according to the nature of the gas to be generated, is a cylindrical vessel, turned bottom upwards, and pushed over a cork ring surrounding the neck of *a*, tight enough to prevent leakage.



A Simple Gas Generator.

The solid contents of *b* are retained in it by means of a diaphragm of platinum or lead, *p*, which may be fastened upon the edge of the cork ring by means of the four sharp corners. When using the apparatus, it is only necessary to turn the vessel *a* sufficiently, to cause the acid to enter the reservoir *b*.—*Zeitsch. f. Anal. Chem.*, xvi., 457.

Nitrate of Pilocarpine.

M. Petit states, in a communication to the Société de Thérapeutique of Paris, that he has obtained nitrate of pilocarpine in fine white scales with the greatest facility by the following process:

Jaborandi leaves are exhausted by displacement by means of alcohol at 80°, containing eight grammes of hydrochloric acid per litre. The alcoholic liquor is distilled, and the residuum dissolved in distilled water, which causes a considerable quantity of resin to separate itself; an excess of ammonia and chloroform is then added to the aqueous solution, and upon agitation the chloroform takes up the pilocarpine. This is distilled

and again agitated with the ammoniacal liquor. This process is repeated several times. The impure pilocarpine obtained as the residuum of the several distillations is exactly saturated with dilute nitric acid, and is then filtered and evaporated in a water-bath, furnishing a dark-colored, crystalline mass of impure nitrate of pilocarpine. This is placed in a small percolator and lixiviated with absolute alcohol, cold. All the coloring matter is dissolved by the alcohol, and the nitrate is left nearly white. In order to obtain fine crystals this should be dissolved in absolute alcohol at the boiling point, a small quantity of bone-black added, and the boiling solution filtered, when it will deposit magnificent crystals of a perfect whiteness. The amount produced by this process is very considerable; about five grammes of nitrate of pilocarpine may be obtained from a kilogramme of jaborandi.

Nitrate of pilocarpine has a rotary power equal, for the line D, to + 76°. It is precipitated by the chloride of gold in the form of fine needles, and by the chloride of platinum in the form of beautiful prismatic crystals grouped in stars. It is soluble in eight parts of distilled water at 15° Centig., and in seven parts of absolute alcohol at the boiling point, but is very slightly soluble in cold alcohol.—*Mouvement Médical*, 1877, 380.

On Boettger's Reagent for Glucose.

PROBABLY the most delicate test for the presence of glucose, particularly in urine, is that proposed by Boettger, namely, to boil the urine, previously mixed with solution of sodium carbonate (1 part cryst. sod. carb. to 3 pts. water), with a very small quantity of bismuth subnitrate for some time, and then to allow the liquid to deposit. If glucose is present, the sediment exhibits a gray to deep-black color, according to the quantity of grape-sugar present. To obtain reliable results, however, it is necessary that the urine be absolutely free from every trace of albumen, or other proteïn-bodies, because the sulphur of the latter would produce black bismuth sulphide, which might be mistaken for the grape-sugar reaction. There are various well-known methods for removing such proteïn-bodies; but O. Maschke has lately proposed a new one, which appears to accomplish the object with absolute certainty. He precipitates the albumen, etc., with a solution of sodium tungstate strongly acidified with acetic acid. A sample of the urine is mixed with ¼ to ½ volume of the sodium tungstate solution, and the liquid is filtered after a few minutes (if a precipitate was produced). In case of an abundant precipitate, the filtrate must be tested with a new portion of the reagent, to make sure that the precipitation was complete. The clear filtrate, freed from albumen, etc., is then mixed with half its volume of solution of soda (or an equal volume of solution of sodium carbonate), and a small quantity of bismuth subnitrate—about as much as half a pepper-seed—is added. Without regard to any violet, blue or green coloration, which is often produced immediately, the mixture is first well shaken, and the bismuth is allowed to settle. If the latter has assumed a gray, brown, or black color, the urine contains alkaline sulphides (Na_2S) which must be removed. In this case a new portion of urine is slightly acidified with acetic acid, and briskly shaken up with a small quantity of bismuth subnitrate. It is then filtered, and afterwards, if necessary, freed from the albumen by the above process.

To bring about the reaction with glucose, the mixture of urine, soda solution and bismuth subnitrate, must now be boiled. In presence of much glucose an immediate browning of the mixture will be observed, and the boiling may soon be interrupted. Traces of glucose, however, can only be detected by protracted boiling. The reduced black bismuth is generally deposited last, so as to form a layer over any remaining undecomposed bismuth oxide. This reaction is capable of showing the presence of as small a quantity as $\frac{1}{100}$ % of glucose in urine; and since glucose appears to be a normal constituent of urine, although only present in traces, it might become a question of doubt, whether a particular kind of urine is diabetic or not. It may, however, be safely assumed, that no urine should be considered diabetic (specific gravity and quantity being normal), unless abundant reduction of the bismuth salt takes place before the actual boiling of the test-liquid mixed with the urine.—*Zeitsch. f. Anal. Chem.*, 1877, 425.

Phosphide of Zinc.

BERGER has tried this remedy in fifteen cases of nervous affection—neuralgia, chorea, singultus hystericus, etc.—in doses of five to eight milligrammes, three times a day, in pillular form. Only twice was a favorable impression obtained in hemicrania; the paroxysms appearing a little lighter and of shorter duration. In the other cases no decided influence was produced. By a prolonged use of the remedy slight dyspeptic symptoms were produced.—*Med. & Surg. Rep.*, from the *Allgem. Med. Cent. Zeit.*

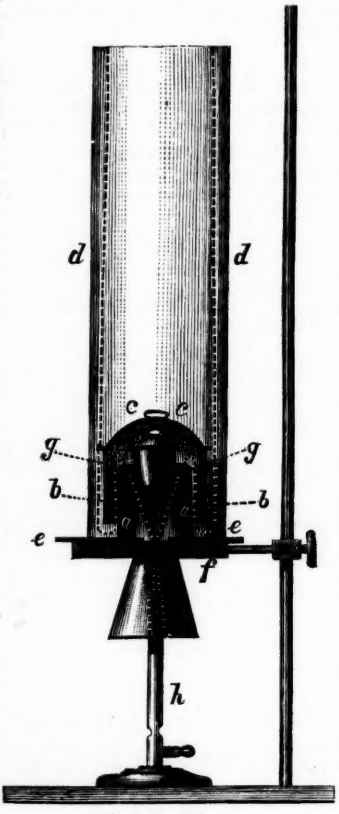
On the Production of Intense Heat by a Simple Gas-Burner.

THINKING that by a suitable arrangement the loss of heat by radiation, during the ignition of crucibles, could be prevented, Dr. Walther Hempel has devised a simple apparatus, mainly composed of clay cylinders and sheet-iron, by means of which a common Bunsen's burner may be made to do the work of a muffle or blast-lamp.

The gas-oven (see figure) consists of two clay cylinders, *a* and *b*, an arched clay cover *c*, a plate of sheet-iron *e*, with a central hole, and a sheet-iron chimney *d*. An ordinary retort stand answers very well for supporting the apparatus. The inner and smaller clay cylinder has, at its upper margin,

three projecting arms, for holding the crucible; the larger cylinder rests on the sheet-iron plate only by three points, the intervening space serving as an exit for the gases. The chimney and the clay cylinders are retained in their proper places by small guides, made of strips of sheet-iron, riveted to the bottom plate.

When the apparatus is to be used, the height of the ring *f* of the retort stand is regulated so, that the hottest part of the flame from the Bunsen's burner *h* will strike the middle of the crucible. The flame is then turned low, the crucible introduced, and the cover and chimney set up. After 2 or 3 minutes the interior has become sufficiently hot to permit the flame being turned on full, when it follows the direction of the dotted lines. The author states that he finds it to be a serviceable substitute for a muffle in nearly all cases. As an instance he adds that he has melted with it some 50 grammes of silver in a small porcelain crucible. —*Zeitsch. f. Anal. Chem.*, 1877, 454.



Simple Gas Furnace.

The Estimation of Casein in Milk.

L. Manetti and G. Musso propose a modified method for determining the casein in milk, which in certain cases is easier of execution than other processes, and furnishes sufficiently accurate results, provided the amount of salts accompanying the casein be separately determined by ignition, and deducted. The method is as follows: 50 grammes of the milk, which should have acquired the proper degree of acidity for making cheese, are weighed into a porcelain capsule, and the latter is placed on a water-bath, containing water heated to 50–60° C. (122–140° F.), and left there until the milk has acquired a temperature of 39–40° C. (102–104° F.). A few drops of a glycerine solution of rennet* are then added, the mixture is stirred with the thermometer, and kept at a temperature of 35–40° C. (95–104° F.). A few minutes after coagulation has set in the mass is cut with a spatula, and the color of the exuding serum is noticed. If the latter oozes out quickly, and has a citron-yellow color, the coagulation is complete; otherwise it is necessary to wait until such is the case. The liquid is poured off upon a gray filter, which had better be placed in a hot filtering apparatus; lukewarm water is poured upon the mass, and the latter stirred to break it up, and the liquid also poured on the filter. This is continued until the last water ceases to react with Fehling's solution. The filter is now drenched with a few c.c. of a mixture of ether and alcohol, 40–50 c.c. of absolute or concentrated alcohol are then poured upon the mass in the capsule, heated to boiling on the water-bath (the capsule being covered with a glass plate), and the boiling alcohol is poured on the filter. This is repeated until no more fat is extracted. The particles of casein have by this time assumed a horny condition. They are washed a few times with ether, which is also poured upon the filter; the latter is spread out upon a plate of glass, the particles of casein adhering to it are transferred to a watch-glass, to which is also added the portion remaining in the capsule. The watch-glass with contents is then dried in an air-bath at 115° C. (239° F.) and weighed. A weighed quantity of this is ignited in a crucible, the amount of ash calculated for the total quantity of casein, and deducted. The remainder represents the correct weight of casein.—*Zeitsch. f. Anal. Chem.*, 1877, 402.

On the Preparation of the Green Iodide of Mercury.

Mr. Patrouillard, in discussing the merits of several formulæ for the preparation of mercurous iodide (hydrargyri iodidum viride), draws attention to a process devised by M. Dublanc, a number of years ago, which he considers to have advantages over those at present in use. This process consists in triturating together a mixture of mercuric (red) iodide and of metallic mercury, in the proper proportions, namely:

Mercuric iodide.....	227 parts.
Mercury.....	100 "

The red iodide may easily be obtained of absolute purity, and in a state of perfect dryness; besides, during the trituration, there is no risk of loss by volatilization. The mixture should merely be moistened with alcohol of eighty per cent., so as to form a thin paste, and well triturated; the reaction takes place in a very short time, and the product is of a dark greenish-yellow color. By way of precaution it should be washed with boiling alcohol.—*Rép. de Pharm.*, 1877, 549.

* The mucous membrane of the rennet-bag of a suckling calf is taken and dried. After a few months it is cut into strips and macerated for a few days in 100 c.c. of glycerine, with frequent shaking. The clear liquid is then poured off and preserved.

RECENT PAPERS.

Bulletin Général de Thérapeutique. Nos. 2–5.

MM. PAQUELIN and JOLLY: "The Pyrophosphates." [The following is the résumé of an interesting paper upon the above subject:

1st. The pyrophosphates are not phosphates.

2d. The pyrophosphates are perfectly defined bodies, which energetically maintain their peculiar structure.

3d. They are not assimilable, and they pass through the system without undergoing any transformation.

4th. They are wholly eliminated in the urine.

5th. They are not *reconstituents;* they act upon the organism neither by their acids nor by their bases; they are merely dialytics, and as such are diuretics.

6th. The pyrophosphates of commerce contain variable quantities of phosphates.]

Dr. ESTACHY: "The Employment of Ergot of Corn in the Place of Ergot of Rye." [In the experience of the author the action of the ergot of corn is identical with that of the ergot of rye.]

S. MARTIN: "The Use of Liquorice in Diabetes Mellitus." [The author states that a diabetic patient may take as much liquorice as he likes without increasing the quantity of sugar in the urine. It may be used instead of sugar to sweeten tea or coffee without injuring their taste.]

The Practitioner.

August. OCTAVIUS B. SHREVE: "Etherization and its Dangers." [Enumerates the causes and modes of death which may occur during inhalation of ether, and cites three cases, one of which proved fatal from stoppage of respiration.]

EDITORIAL: "On the State of Therapeutics in Tetanus." [Reviews the action of chloroform, chloral, calabar bean, opium, nitrite of amyl, bromide of potassium, conium, aconite, curare, belladonna, strychnia, cannabis indica, and cold to the spine.]

September. A. H. RABAGLIATE: "Are there Laws of Therapeutics?" [A continued article, not yet sufficiently advanced to quote.]

J. MILNER FOTHERGILL: "When not to Give Iron." [See page 324.]

EDWARD T. BLAKE: "Nitrite of Amyl in Exophthalmic Goitre." [Details of a case—female, *æt.* 45. Two-drop doses before meals gave prompt and satisfactory relief, but the dose was subsequently reduced to $\frac{1}{10}$ of a drop half an hour before eating. The thyroid did not diminish in size, but subjective symptoms were much ameliorated.]

Richmond and Louisville Medical Journal.

October. JULIAN J. CHISOLM: "What Anæsthetics shall we Use?" [Favors chloroform in preference to ether. Believes that the idiosyncrasy of the patient is the cause of sudden death, and that it is as likely to lead to this result in the use of one agent as in the use of the other—a conclusion which we are quite safe in assuming is not endorsed by many who have paid attention to the subject.]

The American Practitioner.

September. DAVID W. YANDELL: "On the Mercurial Vapor Bath." [See next number.]

WILLIAM CARSON: "Treatment of Typhoid Fever—Good Effects of Salicylic Acid and Baths." [Salicylic acid was given in combination with equal parts of borax, and dissolved in equal parts of glycerine and water. Doses large; for a time at intervals of an hour; stopped when the diarrhœa appeared. Cold bath at 95°. Notes of case.]

T. S. CORNETT: "Pepsin—Does it Merit a Place in Materia Medica?" [His own observations, and the conclusions he arrives at from the literature of the subject, lead him to a negative answer.]

October. N. S. DAVIS: "On the Pathology and Treatment of Dysmenorrhœa." [After describing a certain class of cases in which dysmenorrhœa is a prominent symptom, he expresses his belief in the rheumatic nature of the affection, and explains the measures which he resorts to. The formulæ which he recommends will be found on page 351.]

CHARLES R. GREENLEAF: "Quinia in Small Doses in Malarial Diseases." [See page 351.]

Pacific Medical and Surgical Journal.

September. Q. C. SMITH: "Tincture of Nux Vomica for Nausea and Vomiting in Pregnancy." [Insists that the remedy will prove effectual in relieving such cases in the great majority of instances, and mentions the following formula:

℞. Tinct. nucis vomicæ,
Liq. bismuthi,....āā ℥ ss. M.

Teaspoonful three to four times daily, after meals.]

October. CLINTON CUSHING: "On Some of the Uses of Ergot." [Résumé and recital of case.]

The Ohio Medical Recorder.

September. D. N. KINSMAN: "Salicylic Acid and its Salts." [A brief résumé of their nature and therapeutic properties.]

P. J. SPINZER: "Salicylic Acid in Idiopathic Erysipelas." [Used as a local application, 30 grains of salicylic acid in ℥ i. of glycerine, with remarkably favorable and rapid results.]

A. W. DUMM: "Poisoning by Corrosive Sublimate." [White of egg used with success as an antidote.]

Chicago Medical Journal.

October. F. H. DAVIS: "The Respiration of Compressed and Rarefied Air in Pulmonary Diseases." [Gives a description of a new apparatus for the compression and rarefication of air, and also describes the effects of the measure, and the conditions appropriate to its use.]

LESTER CURTIS: "How to Disguise the Taste of Quinia." [See page 329.]

JAMES I. TUCKER: "Colocynth and Colocynthian Reflections." [Asserts that colocynth will allay the pain caused by excessive peristaltic action better than any drug in use, not excepting opium, providing it be employed in proper doses. Enough of the tincture of colocynth is used to render water slightly bitter; of this a teaspoonful, *pro re nata*, will afford speedy relief from violent griping.]

Detroit Medical Journal.

October. DEWITT C. WADE: "Hydrobromic Acid in Prescriptions." [See page 350.]

A. B. LYONS: "Strychnia Incompatible with Bromide of Potassium and Certain Other Salts." [A prescription containing gr. ij. of strychnia, ℥ ij. of bromide of potassium, and ℥ iv. each of syrup and water, formed a clear mixture, which, after a time, became turbid and eventually deposited a considerable portion of what the writer presumed to be hydrobromate of strychnia. The same phenomenon resulted from the employment of bromide of sodium, iodide of potassium, and chloride of iodium. Nitrate of potassium and sulphate of sodium appeared to have no such effect.]

New York Medical Journal.

October. J. H. FINLEY: "Sixty Cases of Poisoning by Arsenic." [Sixty miners suddenly presented symptoms of arsenical poisoning. The usual hydrated sesquioxide of iron was employed as an antidote, and all recovered. The author does not mention the source of the arsenic causing the trouble, nor give his reasons, aside from detailing a few of the symptoms, why he believes arsenic to have been the cause of the trouble.]

Medical and Surgical Reporter. No. 9.

WILLIAM PEPPER: "Internal Administration of Nitrate of Silver and the Occurrence of a Blue Line upon the Gums as the Earliest Sign of Argyria." [To prevent the irritant action of the drug upon the stomach it is given by the writer in pills, containing from one-sixth to one-fourth of a grain, three times daily, soon after taking food. To avoid the discoloration of the skin which follows the continued use of silver, the remedy is given as before men-

tioned, until thirty grains have been taken, when it is suspended for a month. Fifteen grains are then given in the same manner, and after a second interval of a month, fifteen grains more. He further says that the earliest symptom of the constitutional effect of the drug, occurring before there is danger of the slightest discoloration of the skin, is a peculiar blue line on the gums, first described by Dr. Branson.]

JOHN J. REESE: "On Toxicology." [A lecture delivered at the University of Pennsylvania—the medico-legal view of the subject being the most marked feature of the paper.]

American Journal of Pharmacy.

October. ALB. B. PRESCOTT: "Solubility of Quinia Precipitate in Water-Washing." [Finds the solubility of quinia in water used for washing the precipitated alkaloid to be 0.000216 grammes for every c.c. A solution of sodium sulphate, half saturated, such as would most likely be formed by precipitating quinia sulphate with soda, dissolves nearly the same amount, namely 0.0002 gm. per c.c.]

SAME: "Gravimetric Determination of Quinia, as a Precipitate by Potassium Mercuric Iodide." [The value of this precipitate, dried at 212° F., was found to be 2.9 gm. for 1 gm. of quinia. 26 c.c. of Mayer's standard solution are required to precipitate completely 0.28 gm. of quinia dried at 212° F. The precipitate is very dense, and bears washing without loss.]

SAME: "Gravimetric Determination of Quinia as a Precipitate by Phosphomolybdate." [This precipitate is also very dense, and bears washing without loss; but it must not be heated above 158° F., as molybdenum would be reduced, which is shown by a blue color. The value of the precipitate, dried below 158° F., to a constant weight, is 3.665 gm. for 1 gm. of quinia dried at 212° F. Both this and the previous reagent must be added in slight excess.]

SAME: "Solubility of Quinia Precipitate in Washed Ether." [Nearly 21 parts of *washed* ether are required to dissolve a precipitate of quinia containing 1 part of the anhydrous alkaloid.]

SAME: "Valuation of Six Samples of Citrate of Iron and Quinia." [Only the *total* alkaloid was estimated; and this was extracted by first adding tartaric acid (to keep ferric hydrate in solution), then soda solution, and then shaking with chloroform. The samples gave 5.2, 12.2, 8.7, 9.0, 11.4, 8.3 per cent. of alkaloid.]

SAME: "The Presence of Sulphates in Citrate of Iron and Quinia." [In each of the preceding six samples, sulphates were found to be present, caused no doubt by the retention of a sulphate in the precipitated ferric oxide employed in making the ferric citrate. The amount varied from less than 1 per cent. to 6.5 per cent. of sulphuric anhydride.]

SAME: "The Proportion of Quinia in the Citrate of Iron and Quinia (U. S.)." [By calculation, the preparation, if made anhydrous, would contain 15 per cent. of absolute quinia. The water contained in the commercial article was found in four samples to be: 9.2, 4.2, 8.1, and 6.8 per cent.; mean, 8.4 per cent. Hence calculation would, on the supposition that the salt contained 8 per cent. of water, give the percentage in the officinal salt as 13.9 per cent. of anhydrous quinia, or 16.2 per cent. of quinia trihydrate.]

SAME: "The Pharmacopœial Preparation of Citrate of Iron and Quinia." [From some statements of Mr. Holloway contained in this paper, we would infer that he prefers the following process for preparing *soluble* citrate of iron and quinia: In one fluid ounce of normal ferric citrate solution (U. S. P.) are dissolved 48 grains of quinia sulphate; then 2½ fl. drachms of ammonia, and finally 3 grains of citric acid are added. The product would be about 288 grains, containing 14.9 per cent. of quinia.]

SAME: "On Husemann's Test for Morphia." ["When morphia or one of its salts is exposed to the action of concentrated sulphuric acid for 12 to 15 hours at the ordinary temperature, or for half an hour at 100° C., or for a very short time at 150° C., there occurs, after cooling, a faint violet-red color. If now (to the cooled solution) there be added a drop of nitric acid, or chlorine-water, or ferric chloride, or solution of chlorinated soda or lime, or a fragment of potassium nitrate or chlorate, there is produced a beautiful blue to violet-red color, soon passing into a dark red. The one-hundredth of a milligramme of morphia enables this color to appear with distinctness." *Husemann: Pflanzenstoffe*, p. 124.—Husemann's test was found not to be confined to morphia. *Narcotina*, with pure sulphuric acid at 100° C. alone, gave the same reactions as morphia; and in Husemann's test, the color developed was bright pink-red or carmine. *Codeia*, with sulphuric acid at 100° C., gave a blue-purple color; and in H.'s test, the same reactions as morphia. *Brucia*, with concentrated sulphuric acid, even in the cold, gives a *light red* color. This color, on warming and treating with stannous chloride, fades only very gradually to yellow; but in presence of *nitric* acid (as is well known) stannous chloride develops an intense purple.]

J. C. WHARTON: "Liquor Potassii Arsenitis." [Proposes to use fused potassium hydrate in concentrated solution, to neutralize the arsenious acid, instead of taking potassium bicarbonate, as at present directed.]

A. B. LYONS, M.D.: "Incompatibility of Strychnia with Certain Saline Solutions." [Noticing that sulphate of strychnia produces, in a solution of potassium bromide, a bulky precipitate of (probably) hydrobromate of strychnia. Sodium bromide acts similarly. Potassium iodide, ℥ ℥ to 1 fl. ℥, produces at once a crystalline precipitate in a solution containing 1 grain of strychnia to 1 fl. ℥. Sodium chloride gave similar results.]

F. V. GREENE, M.D.: "On Jurubebia." [The berries of the jurubeba plant, *Solanum paniculatum* L., of Brazil, contain an alkaloid, which has been named by the discoverer *jurubebia*. Jurubeba is also known as the juripeba, jupeba and jubeba, supposed to be derived from *juia*, berry or fruit, and *beba* or *peba*, soft.]

Journal of the Chemical Society.

September. W. A. TILDEN: "On the Oxidation-Products of the Aloins." [When aloin, prepared from Cape aloes (or "*nataloin*") is digested with a 10 per cent. solution of potassium bichromate acidified with the proper quantity of sulphuric acid, carbonic and acetic acids are the results, but no other substance, of definite composition, is produced. When, however, aloin prepared from socotrine aloes (or "*socaloin*"), or aloin prepared from Barbadoes aloes ("*barbaloin*") is treated in the same manner, a precipitate is produced which was found to have the composition $C_{15}H_{10}O_6$, and was named aloxanthin.]

Pharmaceutical Journal and Transactions. Nos. 379-380.

"THE MONTH." [The wood of the *Tupelo* tree (*Nyssa villosa* Mich.) has been recommended, in place of sponge for making tents (sponge-tents).—The alkaloid of *Pao Pareira Bark* (*Geissospermum læve* Baill.) has been found to paralyze all voluntary muscles. The bark has long been used as a febrifuge and antiperiodic in Brazil.—Dr. R. Bell, of Glasgow, has revived the use of *calcium chloride* in the atrophy of infants, especially when arising from tuberculosis. —*Coffee* has been found to have antidotal powers against strychnia.—The inhalation of *amyl nitrite* has been used successfully in a case, which nearly proved fatal, from the use of chloroform.]

G. WELBORN: "Glyceritum Tragacanthæ as an Excipient." [In the course of this paper, in which the author confirms the superiority of this excipient over others in certain cases, he draws attention to a mixture of one part of glycerine and three parts of treacle as being even still more useful. For particular pill-masses the proportion of the two ingredients might perhaps have to be slightly varied.]

Zeitschrift für Analytische Chemie. XVI., 4.

MANETTI AND MUSSO: "Source of Error in the Estimation of Fat in Milk, etc." [In exhausting the dried residue of milk, etc., with ether (in order to obtain the fat), a resinous body is at the same time dissolved, which has acid properties, and appears first in the shape of reddish globules, which gradually darken, and often adhere to the sides of the

vessel, without mixing with the fat. This body is insoluble in carbon disulphide. Its nature is not yet determined, but it may be a derivative of lactic acid. The ethereal extract of the residue from milk may contain as much as 0.54 per cent. of this substance, and the same from cheese, as much as 11.53 per cent.]

SAME: "On the Determination of Casein in Milk." (See p. 333.)

O. MASCHKE: "On Boettger's Reagent for Glucose." (See p. 332.)

WALTH. HEMPEL: "On a Gas-Burner as a Substitute for a Blast-Furnace." (See p. 332.)

MAX SCHSS: "A Simple Gas-Generator." (See p. 331.)

E. DRECHSEL: "A New Extraction-Apparatus." (See p. 328.)

Zeitschrift f. Physiologische Chemie. I., 3.

O. SCHMIEDEBERG: "On the Preparation of the Brazil-nut Crystals." [The kernels of the fruit of *Bertholletia excelsa* H. et B., commonly called Brazil-nuts or Pará-nuts, contain a peculiar albumen compound, which has been recognized as identical with vitellin, existing in the yolk of egg. It may be obtained as a crystalline compound by means of magnesia, with which it forms shining polyëdric crystals of magnesium vitellinate.]

Droguisten Zeitung. No. 38.

PROF. KUHLMANN: "Production of Crystalline Figures upon Glass or Paper." [Window-panes, wall-paper, or other surfaces may be handsomely decorated by means of the following simple process: prepare as concentrated a solution as possible of any easily crystallizable salt, as magnesium sulphate, zinc sulphate, etc., and dissolve in it a small quantity of dextrin. Filter the solution through white filtering paper, and apply it evenly and thinly, by means of a broad brush, to the glass or other surface, which is then kept in a horizontal position for about fifteen minutes. During this time most magnificent groupings of crystals make their appearance, resembling the ice-flowers of winter, which adhere firmly to the surface, but may be permanently fixed by means of a thin coating of shellac. If it is desired to remove part of the coating, as, for instance, to examine the crystals for their optical behavior towards polarized light, it is only necessary to pour a thin layer of collodion over them, and, after drying, to strip the latter carefully off. In this way the whole crystal-group may be lifted off the glass, adhering to the collodion film.]

Pharmaceutische Zeitung. 71–82.

REPORT ON THE CINCHONA CULTIVATION IN JAVA: [By order of the Government, of May 28, 1877, the director of the plantations was authorized to plant an additional million of cinchona trees. A portion of the bark-harvest of 1876, consisting of 146 chests and 337 bales, was sold by auction at Amsterdam on April 17th, last. The prices obtained were unusually high, the average being, for ½ kilo or 1 pound, as follows:

	Crop of 1875.	*Crop of* 1876.
Cinchona succirubra.....	$0.54	$0.56
" Calisaya Javanica..	0.60	0.96
" " Schuhkraft.	0.51	0.75
" " Ledgeriana.	1.50	**3.43**
" officinalis.	1.00	**2.44**
" Hasskarliana.....	0.58	0.93
" caloptera.....		0.61
" mixed pieces.....		0.55
" powder.....	0.15	0.32

During the last months of 1876 the cinchona trees have suffered a great deal from rot, which has been ascertained to be due to the ravages of a hemipterous insect, the same which infests the tea-plant, namely *Heliopeltis theivora*. Both the adult winged, as well as the young unwinged individuals feed upon the sap of the young leaves and bark. For this purpose they puncture the epidermis by means of their proboscis in a great number of places, whereby the leaf or bark acquires a spotted look. In the course of time the uninjured parts of the leaf or bark continue to grow, while the punctured portions shrivel up and die off. In consequence thereof the leaves and ends of the branches assume a twisted shape, and gradually become dark-colored, until new shoots make their appearance from the apparently dead parts. This insect is only found upon introduced plants, such as Tea, Cinchona, Fuchsia, and a species of Datura; it has not yet been met with upon plants indigenous to Java. Their destruction is a task of great difficulty, and probably impossible. The best means of getting rid of them are the early removal of diseased leaves and branches, and the assistance of the birds inhabiting the plantations, against the annoyance or killing of which stringent laws have been enacted.]

J. D. BIEBER: "Adulteration of Expressed Oil of Almonds." (See p. 324.)

Zeitschrift d. Oesterreich. Apotheker Vereins. No. 27–29.

C. G. WITTSTEIN: "On Hypophosphoric Acid." [The acid liquid produced by the slow deliquescence of phosphorus in moist air, which was formerly regarded as a variable mixture of phosphorous and phosphoric acid, has lately been found by Th. Salzer to contain a new acid of phosphorus, corresponding to the oxide P_2O_4, and having the formula H_2PO_3, *hypo-phosphoric acid*, being a bibasic acid.]

SAME: "On the Methods for Detecting Fuchsine in Wine." (See next number.)

PLAUCHUD: "Chemical Examination of Dog-Grass (*Triticum repens*)." [A farmer living in the vicinity of the author hit upon the idea of utilizing this weed as fodder for cattle. He obtained from 100 parts of the dry plant 65 parts of flour, of an agreeable odor and taste, which is eagerly devoured by cattle. The author examined the flour, and found it to contain (in 100 parts, dry):

Crystallizable sugar.....	3	parts.
Uncrystallizable sugar.....	4	"
Starch.....	13.9	"
Fat.....	1.115	"
Nitrogen.....	1.45	"
Mineral constituents.....	3.25	"
Lignin and other substances....	73.285	"

Répertoire de Pharmacie. No. 18.

M. JOLLY: "On the Alterability of Calomel." [The author has made a series of experiments, similar to those made by Mr. Corwin (see our July number, p. 211), in order to ascertain whether any corrosive sublimate was formed during the treatment. *Physical Agents:* Heat; on subliming pure and dry calomel, there is always a partial decomposition; the residue is tinged gray from metallic mercury, and corrosive sublimate is formed. Direct sunlight also decomposes calomel. *Chemical Agents:* Distilled water containing 0.2 per cent. hydrochloric acid was kept in contact with calomel at 40° C. After six hours three milligrammes of sublimate were formed. A solution of chloride of sodium, 0.5 per cent. and one gm. calomel produced in six hours one milligramme of sublimate. Citric acid also produced a similar quantity. Caustic soda, sodium carbonate, calcined magnesia and lime also produced from six to three milligrammes of sublimate.]

M. PATROUILLARD: "On Apomorphia." [Recent solutions of apomorphia in water or alcohol are nearly colorless, or have a greenish tint; on exposure to the air they acquire a greenish and finally an emerald-green color. This is due to some oxidizing action of the air. It may be brought about instantly, by adding to the fresh solution one or two drops of a solution of potassium permanganate.]

M. PATROUILLARD: "On the Preparation of the Green Iodide of Mercury." (See p. 333.)

L'Union Pharmaceutique. No. 9.

C. PAVESI: "On Quinia Citro-Thymate." (See p. 329.)

STANISLAUS MARTIN: "On the Innocuousness of Liquorice in Diabetes." [The author has proven by careful analysis of the urine of a diabetic patient, that glycyrrhizin, the sweet principle of liquorice, exerts no influence whatever on the quantity of glucose eliminated. It passes through the digestive apparatus unchanged, and may be recovered from the urine.]

ORIGINAL COMMUNICATIONS.

THE MEDICINAL CHLORINE-DERIVATIVES OF ALCOHOL.*

(Concluded from page 307.)

Dichlorallylene is an aromatic liquid, boiling at 78° C. (172° F.), but is very unstable, being gradually decomposed, even at ordinary temperatures, acquiring a disagreeable odor, and setting free hydrochloric acid gas. The same phenomena are observed in impure samples of chloroform, and the readiness with which the latter decomposes and becomes acid makes it highly probable that this is owing to a contamination with dichlorallylene. Its presence is easily accounted for by the fact that many manufacturers prepare chloroform from crude alcohol, which contains considerable quantities of *aldehyde*. The latter is converted into crotonchloral, and this, by contact with the chalk during the rectification, into dichlorallylene.

If we, however, accept the new views of the constitution of croton-chloral, according to which it is in reality *butylchloral*, we would have the following products of decomposition :

$$\underset{\text{butyl-chloral}}{C_4H_5Cl_3O} + \underset{\text{potassa}}{2KHO} = \underset{\text{dichloride of allylene}}{C_3H_4Cl_2} + \underset{\text{potassium chloride}}{KCl} + \underset{\text{potassium formate}}{KCHO_2} + \underset{\text{water}}{H_2O};$$

and in this case dichloride of allylene is just as unstable as the dichlorallylene mentioned previously, so that the deterioration of chloroform may be owing to the presence of either compound.

Now, since, in the preparation of chloroform from alcohol and chlorinated lime, the intermediate formation of chloral is generally accepted as a fact, it was supposed that an absolutely pure chloroform could be produced by decomposing pure chloral hydrate with alkalies; and this idea was actually carried out in practice, very large quantities of such chloroform being manufactured in Germany, chiefly by Saame & Co., in Ludwigshafen.

Unfortunately, however, the expectation of its superior purity and stability has not been realized. It costs a good deal more than ordinary chloroform, but it is not by any means more stable than the latter. Of three samples of chloroform, one of which was prepared from chloral, which were exposed to the sunlight in half-filled bottles, one sample consisting of ordinary, and the sample of chloral-chloroform were decomposed with equal rapidity, while the third sample, being purified ordinary chloroform, remained unaltered even after standing six months.

In connection with the above-mentioned compounds, which are mostly derived from the ethyl series, we desire to mention another substance also used as an anæsthetic, and frequently used as a substitute for chloroform. We mean the compound CH_2Cl_2, methene chloride, or dichloromethane, usually called *bichloride of methylene*. The chemistry of the latter may be briefly explained as follows: The starting-point of the methyl series is the saturated hydrocarbon CH_4, methane, or marsh-gas, an incondensable gas of spec. gr. 0.559. Chlorine does not act upon it in the dark; in diffused daylight it displaces one atom of hydrogen, forming methyl chloride, or chloromethane:

$$CH_4 + Cl_2 = CH_3Cl + HCl.$$

This latter body, however, may be more easily prepared by heating a mixture of 2 parts of sodium chloride, 1 part of methylic alcohol, and 3 parts of sulphuric acid. It is a colorless gas of sweetish taste and peculiar ethereal odor. The presence of an excess of chlorine successively causes the replacement of more atoms of hydrogen by chlorine, so that we have the following series:

CH_4 methane;

CH_3Cl methyl chloride, chloromethane;

CH_2Cl_2 methene chloride, dichloromethane (*bichloride of methylene*);

$CHCl_3$ methenyl chloride, trichloromethane (*chloroform*);

CCl_4 carbon tetrachloride.

The third compound of this series, the commercial *bichloride of methylene*, is generally prepared by exposing to daylight in a glass globe chlorine gas and gaseous methyl chloride. The globe is provided with two lateral tubes for the admission of the gases, and below with an open neck, which communicates with one of the tubulures of a Woulff's bottle, of which the other tubulure communicates by means of a bent tube with another Woulff's bottle, and this by another bent tube with a flask. The second bottle is surrounded with ice, and the flask immersed in a freezing mixture to condense the volatile products. The bichloride condenses in the flask in a pure state, while the contents of the two Woulff's bottles consist chiefly of chloroform.

Methene chloride, or, to retain the less correct term, *bichloride of methylene*, is therefore rather troublesome to prepare, and higher in price than chloroform, which latter may be prepared in many ways, starting from methyl, ethyl, or even amyl alcohols. Hence it is not uncommon to find chloroform substituted and sold for the other more expensive anæsthetic They may, however, be distinguished by their boiling-points and specific gravities: chloroform has a spec. grav. of 1492 at 17° C. (62.6° F.), and boils at 63.5° C. (146° F. according to Pierre, but 142° F. according to U. S. Ph.); bichloride of methylene has a spec. grav. of 1360, and boils at 41° C. (106° F.).* A further distinction is their behavior to a flame: chloroform burns with difficulty with a green-bordered flame, while the other liquid burns with a very smoky flame. A solution of iodine in chloroform has a reddish-violet color, while a solution in bichloride of methylene looks more like an alcoholic tincture. It has also happened that chloroform mixed with alcohol, to reduce the spec. gravity, has been substituted and sold for the bichloride. This fraud may, however, easily be detected by shaking it with water, which removes the alcohol.

MISCELLANEOUS NOTES FROM THE ORIENT.

BY PROF. XAV. LANDERER, OF ATHENS, GREECE.

On Parasitic Plants.—Garden beans (*Vicia Faba*) are frequently overrun with a parasite, which in a short time—six to eight days—causes the destruction of a large number of the plants. This parasite is *Orobanche maxima*, which derives its name from ὄροβος, Latin orobus or ervum, "sweet vetch," and ἄγχειν "to choke," being already well known to the ancients as an enemy to leguminous plants. This appears specially from the fact that a temple had been erected at Athens to Apollo, with the attribute Kyamites, as protector of the bean-crop."†

Another parasitic plant is met with upon oak trees. This is *Viscum quercinum*, mistletoe of the oak, ἰξός, which was used in olden times for preparing bird-lime. The Druidical priests, who gathered the plant by cutting it with a golden scythe, employed it as a panacea, particularly against poisons.

The common savory, *Satureia Thymbra*, as well as the common thyme, are often so covered and intermixed with the parasitical *Cuscuta Epithymum*, that they can hardly

* From a paper of J. Biel, in *Pharm. Zeit. f. Russl.*, 1877, No. 11; and a paper in *L'Union Pharm.*, 1877, 181, with additions by Ed. N. R.

* Not at 30.5° C. (87° F.), as Fownes has it. This is the boiling-point of the isomer of bichloride of methylene, namely chlorinated methyl chloride CH_2Cl_2, which has a spec. grav. of 1344.

† We differ from our friend, Prof. Landerer, in the interpretation of the name Kyamites (Κυαμίτης). It is simply derived from *Kyamitis* (κυαμῖτις, namely, ἀγορά) "the bean-market" at Athens, and implies merely a distinction from other temples erected elsewhere. So far as we know, this appellation has never been applied to Apollo himself; it was the name of an Attic hero, according to *Paus.*, 1, 34, 4; or else of a "bean merchant," according to *Photius*, 182, a.

be distinguished. This plant is called by the common people "fox's silk," and is used as a very popular remedy against dropsy.

On the Use of Maritime Plants.—Divers often bring up from the bottom of the sea gigantic mollusks, the shells of which betray by their size and thickness the great age of the animal, being completely enveloped in algæ. These latter are used as a popular remedy in diseases of the lungs, in dysuria, and the calculous diathesis.

Remedy in Albuminuria.—All species of *Pistacia* occur in Greece, and are cultivated in gardens. The fruit, pistachio nuts, are made into a sort of confection, and are used by Oriental ladies for producing obesity. The largest plantations are upon Scio (Chios), where twenty-three villages* are engaged in the collection of *Mastich*. The revenue of the mastich planters amounts to about 5,600,000 francs annually.† Another species, *Pistacia Terebinthus*, is the source of the "Chian Turpentine." An important property, however, of a decoction of *Pistacia* leaves appears to be its salutary effect in albuminuria. I have had occasion to make many analyses of albuminous urine, and have noticed myself a frequent gradual diminution of albumen, and sometimes entire cessation of it in the urine of persons who were treated with a decoction of *Pistacia* leaves. The name *Pistacia* is said to be derived from πίσσα, pix, "pitch," or resin, and ἀκέομαι, "to heal," because it contains a "healing resin."

Fish-Poisoners.—Greek fishermen are in the habit, in spite of heavy penalties, of catching fish in rivers or bays by poisoning the water with bundles of an euphorbiaceous plant, *Euphorbia segetalis*, formerly named Tithymalus; now called φλώμος in Greece. Fish poisoned by these plants do not keep long, and are injurious to persons eating them. The so-called *Fish-berries*, from *Cocculus Indicus*, semina piscatorum, are also used for such purpose, small baskets containing them, mixed with other bait, being let down to the bottom of the water in small retired bays. The eating of such poisoned fish is highly dangerous.

Wheat-Bran.—An excellent popular remedy, also much used by regular physicians against bronchial disorders, is a decoction of wheat-bran (πίτερα or πίτυρα), mixed with eggs and sweetened with honey and sugar.

On Egyptian Mummies.—The embalming of bodies in ancient Egypt was preceded by the removal of all internal organs (intestines, heart, lungs, etc.), and even the eyes, in place of which artificial ones, painted upon tin, were introduced. The bodies were then impregnated with asphalt, or liquid petroleum,‡ mixed with aromatic herbs, and dried in the sun or in specially constructed furnaces, or else by burying in the hot sand of the desert. They were also wrapped into broad linen bandages, several hundred yards in length, which have a very bitter taste and were most probably saturated with a solution of olibanum and myrrh, and covered with a solution of gum sarcocolla, an exudation of *Fenæa mucronata* and other species of *P.* The fact that *wax* has been found in some mummies, which was supposed to be the means of conservation, has been the origin of the word *mummy*, from Pers. mōm (mūm), wax.

(To be continued.)

SCENT-YIELDING PLANTS AND THEIR PRODUCTS.§

By G. W. Septimus Piesse, Ph.D., F.C.S.

I propose to describe the scent-yielding plants, their culture and their products, and so must needs say a few words by way of preface, because certain parts of nearly all plants yield odor, as, for example, mint and patchouly, from the leaves; orris and sumbul, from the root; cinnamon, from the bark; nutmeg and caraway, from the seed; roses and violets, from the flowers; sandal and cedar, from the wood; yet, of the thousands of plants that are somewhere in themselves fragrant, there are but few—wonderfully few—that are cultivated as scent-yielding plants in a commercial point of view. To these I will more particularly confine my observations, and first of all I will take

The Rose.

Its breath
Is rich beyond the rest, and when it dies
It doth bequeath a charm to sweeten death.

There are two methods of obtaining scent from the rose, both operations being carried on to a considerable extent.

The Cabbage Rose (Rosa centifolia).

In Roumelia the flowers are distilled for the purpose of obtaining the attar or otto of roses. In the south of France the *enfleurage* process is adopted, which yields a spirituous scent of the rose. The principal rose-farms on which the distilling process is adopted are situated in the valley of Kézanlik, in Roumelia, at the foot of the Balkan mountains; the principal town (Kézanlik) being now easily found on the war-maps of the day. The province of Kézanlik extends for about forty miles east to west, and is watered principally by the river Thunga. It contains many small villages, the peasants of which are employed in rose culture. The only rose cultivated for its scent, both in Roumelia and in France, is the Provence or cabbage rose. It can be planted either in spring or in autumn. On Messrs. Collas & Christoff's farm, where roses are grown, parallel furrows are cut at distances of 5 feet apart, 4 inches deep, and the bushes are laid, not cut, but so broken off as to have a portion of the old root attached to them; these are then covered up with earth and a little manure; if water be near, the furrows are inundated, otherwise the grower trusts to what may fall in the shape of rain. In six months the young shoots appear and are then earthed up. During the first year they make about 4 feet of wood; the second year a few flowers are produced, but a crop is only secured in the third year; the plants then begin to have the aspect of thickets, which soon

* Μαστιχοχώρα, masticho-chora, is the name of the "Mastiche District."

† This is at least ten times as much as is actually the case. According to Flückiger and Hanbury, the exported mastich in 1871 represented the value of £15,433.

‡ πισσάσφαλτος, "asphalt with pitch." Dioscor. Cf. Her., 4, 195: πίσσαν, ὕδωρ ἔχουσαν ἀσφάλτου, pitch which has the odor of asphalt.

§ From *The Garden*.

become perfect hedges 6 feet high, and which will bloom well for fifteen years. During this period dead wood is cut out, but the bushes are not pruned in the ordinary sense of the word.

The Balkan mountains keep off, in a great measure, north and west winds; nevertheless, in spring the roses often sustain great injury from frost.* As a rule, the rose harvest begins in the middle of May, and consequently this is the time for distilling, an operation which lasts for, say, twenty-five days. Suppose a plantation to produce in one season

The Damask Rose (Rosa damascena.)

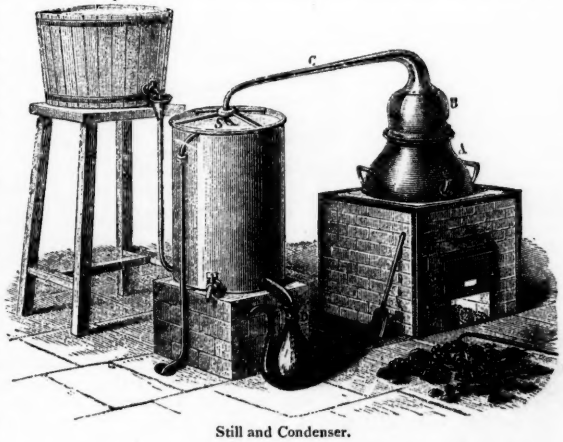
25,000 lbs. of flowers, there must be gathered and distilled 1,000 lbs. each day. The flowers are gathered before sunrise and are distilled by noon of the same day. As seasons differ, so do the crops and the quantity of otto produced. The amount of otto is greatest when the temperature at the time of distilling is low, and *vice versâ*. When the weather is warm there is an abundance of bloom, but the yield of otto is less; favorable weather is, therefore, better than large crops of blossoms The stills are on the same principle, as regards construction, in all parts of the world where there are flower-farms, but they vary considerably in size. At Mitcham, in Surrey, Piesse & Lubin's stills hold one ton and three-quarters of a ton respectively; these are used for distilling peppermint, lavender, cloves, caraways, etc., while the stills employed by M. Herman, of Cannes, only hold half a hundred-weight; these are used for distilling orange flowers. The rose-stills used at Kézanlik hold about two and a-half hundredweights. The still is a copper vessel or boiler, known as the alembic (A), broad at the base and becoming narrower towards the top, on which is fitted the dome or neck (B), to which is attached the condensing pipe (C). Water and roses are put into the alembic, then a fire is lighted under it, and when the water boils the steam generated carries forward the attar from the roses into the refrigerator (S): the otto floats on the condensed water and is thus collected. On an average it requires 3,000 lbs. of blossoms to produce 1 lb. of attar—say 16 ozs.—otto of roses always being sold by the ounce, which in Turkey is somewhat more than the English ounce.

Baring, in his report on the exports of Roumelia, recently published by order of the government, gives the following summary of the production of attar in Roumelia previous to the Russo-Turkish war:

	Ounces.
Kézanlik	27,776
Guenpsa	12,064
Karaja-Bohg	6,144
Tchirpan	2,592
Koyoun-Tépé	1,888
Pazardzik	1,760
Yeni-Zaaghra	1,728
Zaaghra	1,568
	55,520

This estimate is based on the average production of the last ten years, but in 1866 it reached 96,000 ounces, and in 1872 it fell to 27,000 ounces. As to the commercial value of the attar, it may fairly be estimated, when pure, at from 25s. to 30s. per ounce. In round numbers we may therefore say that the rose-farms of Roumelia are worth £70,000 to £80,000 per annum ($340,200.00 to $388,800.00). That rose and other farms can be established in Fiji, Queensland, and at Swan River, I have but little doubt, and to land-owners there I commend the figures just recorded.

Modes of obtaining the Scent.—Many flowers, according to the method adopted to extract the perfume, yield more than one scent; it is so with even the same variety of rose; when distilled it furnishes the well-known attar, and coming as it does direct from the flowers, one would imagine that it would smell like them, but it does not; it has a very pleasing odor, but certainly not exactly like that of the rose, which is only obtained by the process of *enfleurage* and *maceration*. It is now a well-known fact that fatty substances absorb scents. If we spread very clean grease—say a butter made of lard and beef suet—upon a plate, then sprinkle freshly gathered scent-yielding flowers upon it, covering the whole with another plate, leaving them thus together for a few hours, the butter will absorb the odorous particles, becoming itself fragrant; again, if the butter be melted at as low a heat as possible, and the flowers be put bodily into it and left there for a time, the grease also in this way becomes scented; the former is called the *enfleurage* process, the latter the *maceration*. Roses are treated by these joint operations, but some other flowers, for



Still and Condenser.

practical reasons, are worked by one or the other only. In the valley of the Var, Alpes Maritimes, France, an important industry in this direction exists. Farms for the growth of flowers, and vast laboratories for their manipulation, are to be found at Grasse, Cannes, and Nice, where roses are cultivated in a very similar manner to that already described, but they are not allowed to form themselves into hedges, as in Roumelia. During the flowering season the

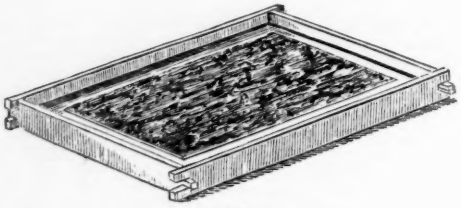
* [The entire rose-growing district has now become desolate, the villages having been burned and the fields destroyed by the Russian and Turkish armies. See page 230 of October number.]

air is laden with fragrance, and women and children gather the blossoms, which they place in little panniers like anglers' baskets hung over the shoulder; they are then carried to the laboratory and weighed, the weighing determining the earnings of the garnerers.

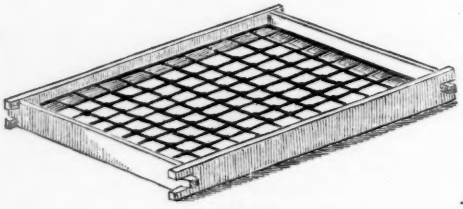
In the laboratory, anticipating the harvest, great quantities of the butter have been collected, melted, washed, and clarified. The success of this process depends on the absolute purity of the grease, and no pains are spared to effect this end, the fat being repeatedly melted with a good bulk of alum, salt, and nitre; then it is washed over and over again with plain water, and rose and orange water; finally, it is again melted with a little gum benzoin. The butter, thus purified, loses all traces of its animal origin; it is odorless as the purest water, but wonderfully ready to absorb fragrance from scent-yielding substances near it. In each laboratory there are several thousand *chassis* (sashes), or framed glasses, upon which the grease to be scented is spread, and upon these the blossoms are sprinkled or laid. The *chassis en verre* is, in fact, a frame with a glass in it, as nearly as possible like a window-sash, except that the former is 2 inches thicker, so that when one *chassis* is placed on another, there is a space of 4 inches between every two glasses, thus allowing room for blossoms. Each *chassis* is about 2 feet long and 18 inches wide. The roses are changed every day, or every other day, as may be convenient; the same butter remains in the sash for, say, about two-thirds of the time during which the roses are in bloom, but each time fresh flowers are put on it is "worked," that is, serrated with a palette-knife, so as to present a new surface to the flowers.

The butter, being enflowered in this way for the given time, is then scraped off the several frames, and liquefied in an appropriate vessel placed in a hot-water bath. Fresh roses are then put into the liquefied grease, and there they remain for a few hours; then the butter is carefully strained into a similar vessel, to which fresh flowers are added, and this operation—maceration—is repeated until the end of the rose season. Finally, the butter is again strained and poured into tin canisters. When cold it has a most delightful and natural scent of roses, and is now fit for exportation to all parts of the world.

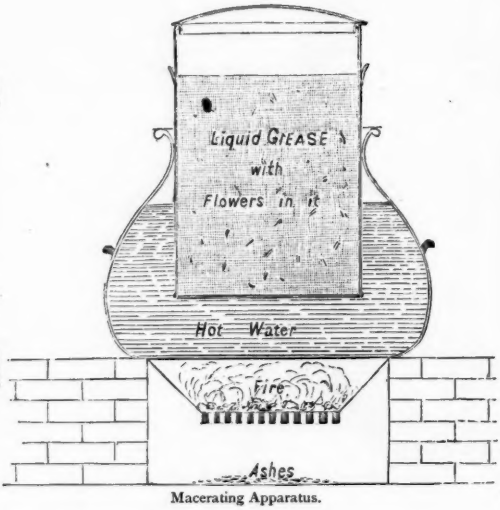
Olive oil can be enflowered in a similar way to butter, but in place of glass the frames are filled with coarse wire gauze; these are called *chassis en fer*. Upon the wire net is laid a *molleton*, or very thick cotton fabric resembling the fluffy towels now in use, and soaked with fine oil. After continuous changing of the blossoms the *molletons* are folded together, and the oil is squeezed out by the aid of a screw-press; then this same oil is slightly warmed



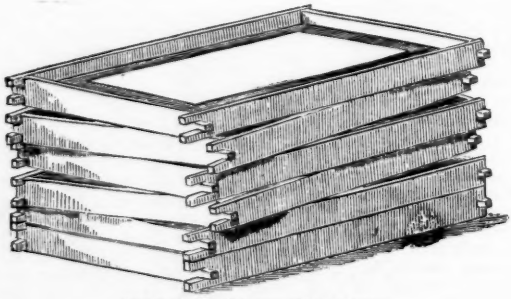
Glazed Frame.



Wired Frame.



Macerating Apparatus.



Stacks of Wired Frames with Molletons.

and charged with fresh flowers for many days, and finally strained; it is then ready for sale. Both the butter and the oil acquire a good color from the pollen of the flowers, but no tint is communicated by the petals.

The Perfume.—In order to obtain the scent of the rose in the form used for scenting handkerchiefs, we have to infuse the enflowered butter or oil in strong alcohol—that is, a spirit containing not less than 90 per cent. of absolute alcohol. The solid butter has to be cut up fine or granulated under what may be termed a macaroni press; it is then put into the spirit, and there allowed to remain for several days. If oil be used, it must be shaken up daily with the spirit, the result being that the spirit extracts all the odor from the fatty body, and becomes itself "perfume," while the grease, on the other hand, becomes odorless. As a rule, it requires 5 pounds of blossoms to enflower 1 pound of grease, and 8 pounds of the best of this is used to every gallon of alcohol. The spirit comes away from the butter quite bright, and of a pretty pale emerald color. To every gallon of rose perfume thus made must be added one ounce of Roumelian attar, and in this way the finest rose-scent is obtained. Numerous valuable products are also obtained from *Rosa centifolia* and *R. Damascena*, which will not be described here.

(To be continued.)

IMPARTING A BLUE COLOR TO SOAP.

TO THE EDITORS OF NEW REMEDIES.

MR. EDITOR—In your October number of NEW REMEDIES one of your correspondents asks what chemical added to soap will color it blue?

This is *copperas*. The soda lye used for making soap always contains more or less sulphuret of sodium. The mottled soap (Castile soap) is colored in this manner.

Yours truly,

HANS. M. WILDER.
N. E. cor. EIGHTH and DIAMOND STS.,
PHILADELPHIA, Oct. 28, 1877.

THUJA OCCIDENTALIS.

WE have recently received a number of queries relative to the nature and uses of the arbor vitæ, and in our last number we gave formulæ for its preparation. Since then we have solicited from Dr. James R. Leaming, of this city, some information regarding it, and have received in reply the subjoined memoranda. Dr. Leaming is by no means an enthusiast concerning the value of the remedy, and does not claim for it any extraordinary powers, but he has for some years past been accustomed to use it occasionally, and says concerning it as follows:

"The fluid extract or saturated tincture may be given in drachm doses from three to six times daily.

"It may be given for malignant disease or for pulmonary hemorrhage in a glass of milk or in cod-liver oil.

"It may also be applied to cancerous ulcerations or tumors. It may be applied in the cavity—in the os—or to the cervix of the uterus in malignant disease, or in non-malignant, when there is a flabby condition of the parts with a tendency to bleed; and also, under the same conditions, to the throat. It may be applied to warts, and especially to venereal warts.

"It may be given in amenorrhœa from simple causes, but does not affect a healthy gravid uterus.

"The elixir of thuja and glycerine is a more elegant mode of administering the medicine, and is a valuable substitute for cod-liver oil.

"The glycerole may be made into suppositories, or it may be mixed with the fluid extract, for application to the os uteri upon a pessary of cotton.

"This medicine may become very useful to the practitioner in the treatment of malignant disease, especially in diminishing tendencies to bleeding and rapid progress of the local disease. It also relieves the violence of pain. In some cases the disease has disappeared under its use—not always.

"The preparations of Mr. H. N. Lawes, druggist, corner of Twenty-third Street and Eighth Avenue, are carefully prepared, and are efficient and reliable." [See page 317.]

The literature referring to this drug is quite limited. A. Kawalier, of Vienna, discovered a bitter principle, which he called *pinipicrin* (found also in Pinus sylvestris), a volatile oil, sugar, gelatinous matter, a variety of wax, resin, and tannic acid (*Chem. Gaz.*, Feb. 1, 1855, p. 45); and more recently a peculiar crystallizable coloring prlnciple, which he termed *thujin*, another yellow substance, which he called *thujetin*, and still a third, *thujigenin*; also a variety of acid, which he named *pinitannic*. Kawalier's second paper in the *Chem. Gaz.*, Nos. 392–3, pp. 61 and 68. 1859, is said to contain a full description of the processes he employed.

Regarding the properties of thuja, the wood when burnt gives off an agreeable smell, which led to its former use for sacrificial purposes. A salve made with the leaves used to be a remedy employed by the Indians for the relief of rheumatism, and a poultice of the leaves made with milk has been highly spoken of for the same purpose. By distillation the leaves yield a yellowish-green volatile oil, which has been used as a vermicide. Boerhaave praised the action of the distilled water as a remedy for dropsy.

Some years ago Dr. Leaming contributed to the *N. Y. Journal of Medicine* (N. S., xiv., 406), a paper on the use of thuja in affections believed to be cancerous, and in venereal excrescences, and in 1856, in the same journal, Dr. Benedict recommended the strong tincture as an emmenagogue.

Thus far thuja appears to have been employed empirically only, but it would seem, on reviewing the affections in which it had been of service, that its action may be explained by a property somewhat similar to that possessed by ergot, namely, of causing contraction of unstriped muscular fibres. This would explain, in some degree, its alleged power of controlling capillary hemorrhage, and the growth of vascular tissues like cancer and condylomata.

THE REVISION OF THE UNITED STATES PHARMACOPŒIA.

SINCE the issue of the circular* proposing a plan for the Revision of the U. S. Pharmacopœia, the undersigned chairman of the committee has received a number of replies, both from members and from others, which contain suggestions worthy of consideration. In order to enable those, who take an interest in the work, to keep abreast of the progress made in the general plan, as well as to elicit their views, the undersigned proposes, from time to time, to give an abstract of whatever there may be of interest in the correspondence of the committee.

The first proposition of the circular, relating to the alphabetical arrangement, appears to have been generally approved. The necessity or utility of making general headings of classes, in which such remarks might be made, as are applicable to the whole class, has been questioned, chiefly for the reason that such remarks would be superfluous, if each formula, as it really ought to be, were made complete in itself. One member prefers a classification similar to the one adopted in Squire's Companion to the British Pharmacopœia, which gives all preparations under the head of the crude drug or chemical which enters into it as chief constituent. The majority of the committee appears to favor the plan followed in the German and other Pharmacopœias, to enumerate certain crude drugs in classes, such as Cortex, Flores, Folia, Fructus, Herba, Lignum, Radix, Rhizoma, Semen, Tuber, etc. The chief objection to this change, however, is, that in the majority of cases two words would have to be employed to do service for *one*. Wherever we employ only *one* portion of a plant, as, for instance, of buchu *the leaves*, of krameria *the root*, of eupatorium *the whole herb*, there is hardly any need for special distinction, at least so far as the

* October number, page 309.

title of the article is concerned. Those cases, where more than one portion of a plant is officinal—as the *leaves* and the *root* of belladonna, the *corm* and the *seed* of colchicum, etc.—are much less numerous, and pharmacists have become so accustomed to the present arrangement, that it becomes doubtful, whether a change in this direction is desirable. One member of the committee particularly lays stress upon the practical side of the question, namely the ease and rapidity with which any name may be found at once, in the Pharmacopœia, if each article is classed under its generic name, such as "Senna," "Belladonnæ folia," and "Belladonnæ radix." In connection with this it may be stated that Prof. Albert B. Prescott recommends to place under the head of each article a list of the preparations into which it enters.

The list of new drugs and new preparations under § 3 has been found pretty full; at least no further additions have reached the undersigned up to the present. A number of substances, however, have been objected to, or have been designated as useless, all of which will be discussed at a future opportunity. Further criticisms or new proposals are solicited.

The list of chemicals, for which formulæ are to be given in the Pharmacopœia, has not yet received the attention which it requires. One member of the committee proposes to strike out calcii phosphas; ferri pyrophosphas; hydrargyri ammonio-chloridum; potassii sulphuretum; antimonii oxysulphuretum, and zinci phosphidum; and he desires to have added quinia and the other cinchona alkaloids with their salts, morphia and its salts, and strychnia and its salts. Against the latter proposition, namely, to give formulæ for the preparation of alkaloids, the objection must be made, that no process, capable of being worked on the scale of the Pharmacopœia, could ever yield a pure or salable product. The only object in giving such formulæ, could be to furnish a guide for the assay of the crude drug. Hence it appears preferable to annex to the articles Cinchona, Nux vomica, and Opium (and perhaps to others), paragraphs detailing the best method for assaying the amount of the respective alkaloids or other active principles.

The proposition to add to each chemical, admitting of it, its formula according to the new notation, has been somewhat modified by one member, who recommends to add the formula according to the old notation in brackets. This would, of course, have to be in different type, but would be a useful addition for the many pharmacists who have been trained up in the old nomenclature, and have not found time to master the new. The peculiar position of the proposed new Pharmacopœia as a transition-link between old and new times seems to make duplicate expressions of temperature and chemical composition advisable.

The most important paragraph of the circular, namely § 8, has elicited a good deal of discussion, and is likely to do so for some time to come. In view of the necessity of arriving at a satisfactory solution of the problem as speedily as possible, the undersigned submits the following extracts from the communications received to general consideration. Prof. C. Lewis Diehl writes: "I regard this as one of the most difficult problems that we have to encounter. Its proper solution will require a great deal of *very careful* labor. The conversion of volumes into weights is comparatively easy in the majority of preparations; but with others —*e.g.*, the fluid extracts—it is attended with much difficulty. Another question, that cannot be put aside altogether, is this: Can the average American pharmacist be entrusted with the production of preparations the eventual strength of which is dependent upon the careful determination of the specific gravities of the menstrua he employs—not to speak of the thoroughness with which the drug must be exhausted? or, if qualified, will he take the trouble? Will it not tend to throw the production of certain galenical preparations into the hands of manufacturers, rather than, by the very simplification sought, induce their preparation by pharmacists more generally?"

This question of fluid extracts is indeed the most difficult to decide. The proposition contained in the circular, which had been suggested by Dr. E. R. Squibb, appears to us to be the only rational solution, *provided, first*, fluid extracts are made to comply with the general rule of being prepared by weight; *second*, their former relationship to measure is still to be sustained; and *third*, the specific gravities of the menstrua employed and the hygroscopic condition of the drug can be controlled without too great difficulty. Let us at once agree, that fluid extracts shall be made by weight. In this case we could offer three solutions of the problem:

1. The above-mentioned process, which yields, probably in each case, a *different* weight of fluid extract, from the *same* weight of crude drug. The specific gravities of the original menstrua employed must be carefully determined. But the product has the advantage of still representing *minim for grain*, as at present.

2. A simple process of exhaustion, in which the percolate, irrespective of its density, is to be concentrated until it weighs say one pound for every pound of the crude drug. One *grain* of this fluid extract would represent one *grain* of the drug. This process is independent of specific gravities, and merely requires weighing of the end-product. Moreover, although the fluid extracts of various manufacturers may vary in *bulk* owing to difference in menstruum employed, yet they will all be alike, so far as weight is concerned. But the objection may be raised here, that in certain cases, as rhubarb, cinchona, etc., it will be very difficult, if not impossible, to get one pound of the drug into a pound of the liquid extract; besides, the increased evaporation in some cases might injure the qualities of the product. Hence a third process might be suggested:

3. To prepare from *one* pound of crude drug *two* pounds of fluid extract. In this case but very little evaporation would be needed, and the formation of sediments, so far as they might be owing to oversaturation, would be prevented. *One grain* of this fluid extract would be equal to *half a grain* of the drug.

The undersigned felt it his duty to place these alternatives before the committee, because each of them has, in a greater or less degree, some advantages, and because they all have been proposed at some time or another.

Prof. Diehl further remarks: "Some attention should be paid to synonymes. There are many physicians, who still adhere to, or affect old and obsolete terms for chemical and pharmaceutical preparations. These could be given without materially increasing the bulk of the work, and they seem to be as important as the tables which are to be embodied into it." "Our Pharmacopœia has undergone many changes since its creation; many preparations, still prescribed by some of our older physicians, have been dropped, and no record is kept of them in our commentaries or dispensatories. I consider it advisable to embody these in smaller type, in the form of an appendix, to the new Pharmacopœia. The merest outline of the formula would be necessary, perhaps in this shape:

"*Tinctura Cinnamomi composita* (U. S. Ph., 1850).—Cinnamon, ℥ i.; cardamom, ℥ ss.; ginger, ʒ iij.; dil. alcohol to Oij.

"*Tinctura Rhei et Gentianæ* (U.S.Ph., 1850).—Rhubarb, ℥ ij.; gentian, ℥ ss.; dil. alcohol to Oij.

"These formulæ might also be changed so as to give parts by weight."

In reply to a second circular of the undersigned, containing among others the question, "What change, if any, in the menstrua of fluid extracts and tinctures shall be made, so as to retain all useful constituents in solution, and still to have no excessive alcoholic strength?" Prof. J. P. Remington writes: "The great mistake in many of the individual formulæ is the attempt to make too many of them uniform, whilst we know that a different solvent in almost each case would be preferable. The point is, to try, by a series of carefully conducted experiments, various menstrua, until the proper one is selected for each drug, and not to be led astray by endeavoring to have as many as possible made by the same process. I believe that there is too much glycerine used, and that it is objectionable on account of its powerful solvent properties. Like an over-enthusiastic friend, it gets us into more difficulty than we know well how to get out of. . . . I think the proper plan is to use as little alcohol and glycerine as possible, or in other words, to

determine the *smallest* amount of either of these liquids which would be sufficient to *exhaust* the drug and *keep* the product." And Prof. Diehl says: "To solve the question properly, very careful, accurate, and intelligent work is required. I think I do not go too far when I claim that the fluid extracts are the most important among the galenicals of the present day. They are so, not alone because of their intrinsic value as concentrated and convenient representatives of vegetable drugs, but also because, when properly prepared, they may represent the solid extract, the tincture, the syrup, and the wine. The three latter classes of preparations, together with infusions (!) and decoctions (so-called), are at this day very largely made from them by the great majority of 'druggists.' Solid extracts not so generally, because it is not *profitable* to convert *purchased* fluid extracts into solid extracts, and because, when fluid extracts are prepared by the officinal method, many of them cannot be so converted. Now, whatever may be our opinion of the present practice of 'druggists,' this much is certain, that a fluid extract *should*, and *can* in most cases, be made so as to represent a definite quantity of the drug accurately, and that therefore wines, syrups, or tinctures can be made from them of as reliable quality as by the present distinct process, and with much greater convenience. If, in addition to this, we can dispense with the use of glycerine or sugar, we have in the fluid extract also a convenient medium for preparing the solid extract. The present general process for preparing fluid extracts has some points in its favor. It is simple and explicit, and it aims at the exhaustion of the drug with a minimum quantity of menstruum, and at the exposure to heat of a minimum quantity of extractive matter. If all the conditions of the Pharmacopœia are fulfilled, we can, in most cases, secure a good fluid extract. The difficulty, however, consists in uniformly complying with these conditions, and in applying them on a more extensive scale. It is not my purpose to go at present into details; but in the revision we should aim to so construct the formulæ: 1. That practical exhaustion of the drug is secured, even if it becomes necessary to obtain a much larger quantity of *second* percolate than is now prescribed. 2. That the process shall, with a reasonable amount of attention and skill, secure a uniformly reliable product. 3. That the use of glycerine, or other non-volatile body, shall be dispensed with, when not absolutely necessary to the preservation of the preparation; and 4. That the menstruum shall be conformable in strength, whenever practicable, to the strength of that used in preparing the corresponding extract, tincture, etc. In illustration of this point the following inquiries present themselves:

"1. What is the weakest alcoholic menstruum that will completely exhaust the drug and will retain and preserve the dissolved matter?

"2. Is the preparation suitable, in its alcoholic strength, for medicinal purposes?

"3. Can it be reduced in alcoholic strength, if necessary, by the introduction of glycerine, sugar, etc., without injury to its activity?

"4. Can it be increased in its alcoholic strength, without injuring its activity or medicinal use?

"The first and second points being decided, we have comparatively plain sailing; in most cases we will probably find that extract, tincture, wine, and syrup can readily be prepared from the fluid extract. It may be, however, that the preparation is too strongly alcoholic for medicinal application; in that event, inquiry 3 may give the solution, and while the preparation may then no longer be suitable for preparing the extract, it may still be applicable to the preparation of the tincture, wine, and syrup. On the other hand, the preparation may be too weak for preparing the extract, etc., and will bear an increase in its alcoholic strength as decided by inquiry 4; in this case it may then still be useful for preparing the four galenicals mentioned above. In conclusion, I may say that I desire to throw these ideas out for the present merely as suggestions, to be discussed by the other members of the committee, and to subject them to their approval."

The views of other members of the committee, who have responded to the circular, and of others, will be communicated on a future occasion.

CHARLES RICE, *Chairman.*

OPIUM CULTIVATION AND TRADE IN INDIA AND CHINA.

ACCORDING to the most reliable authorities, opium was introduced from Turkey and Arabia into India by the Mohammedan rulers, who were acquainted with it long before the people. Its use among the latter—excepting as a medicine—dates back, in India, only a little over 100 years. From India it probably took its way over Assam, Burmah and Thibet, into the Chinese provinces of Yun-nan, Szechuen, Shen-si, and Kwei-choo.

The right of growing opium in India was already a monopoly of the government under the Mogul sovereigns, who sold the privilege to the highest bidders; and this policy was adopted by their successors, the East India Company. The crop produced was originally used only for medicinal purposes; but some time about the year 1760 it appears to have gradually become known as a powerful intoxicant. Before 1767 the exportation of Indian opium to China rarely exceeded 100 chests annually; in that year it rose to 1,000 chests, at which figure it remained for some time afterwards. The East India Company itself made its first venture in 1773, and in 1798–9 the annual export had already risen to 4,000 chests.

During the reigns of Yung Ching and Kien-Lung (1723–1795) it was included in the tariff of maritime duties, under the head of medicines, and there was then no regulation against purchasing or smoking it.

It was only in 1799 that its importation into China was interdicted, and smokers of "the vile dirt of foreign countries"—as it was termed—were threatened with severe punishments, gradually raised to transportation and strangling.

Up to about 1829, the policy of the East India Company was, to limit its production to a moderate quantity, seldom over 4,500 chests, and to confine its cultivation only to such districts as could produce it of the best quality and at the lowest cost. They also took measures to prevent its use, except medicinally, in their own territory; and hence they caused the crops growing in the districts of Bangulpore and Rungpore, where it had been extensively cultivated, to be entirely destroyed. In accordance with their deliberate policy of employing taxation less as an instrument of raising revenue, than as a preservative of the health and morals of the community, the Directors at that time assumed the exclusive control of its growth and sale, and made their charge for it as high as possible. In consequence thereof the home consumption was very moderate; even as late as 1868–9 only about 3,400 chests (value £300,000; profits £200,000) being consumed at home, while 50,000 chests went to China. But the native states of central and western India, who are, or were, in a measure independent, consumed very large quantities; the Rajpoots and Sikhs, who are confirmed opium-eaters, consuming as much as 20,000 chests.

The independence of these native states is fettered by the presence of a British Political Resident, but, as far as opium cultivation is concerned, no interference is made. This difference between British and native territory divided the opium concerns of the Company into two quite dissimilar sections, namely, "Patna" and "Malwa," the former being produced on British territory, the latter in the native states. But *Patna* (and *Benares*) opium is alone the subject of the monopoly, constituting about two-thirds of all the opium produced in India, while *Malwa* opium, which is raised independently of British supervision, nearly forms the other third. The monopoly of the government consists in the reserved right of cultivating or permitting the cultivation of the poppy, and the sale of opium.* Now it may be

* The price which the government pays for opium raised by private individuals, varies from 4 to 5 rupees per seer (or $0.80 to $1.10 per pound).

asked, how can the high government prices exist in view of the apparently independent competition of Malwa opium, the export of which takes the usual route over Bombay? The answer is this: As long as the country between Malwa and the sea-shore was in the hands of the Mahrattas, who made the transport of valuable commodities insecure, only a small quantity of opium reached the coast. But when the country along the sea-shore came into English possession, and carriage was safe, and it was seen that any quantity of opium at low price might be exported, the Company concluded treaties with the native chiefs, *compelling* them to grow less, and to sell the opium to the Company. This lasted from 1818 to 1831. In this last-mentioned year, when the Company had acquired the whole sea-shore, excepting only the port of Damaun (the route to which is very difficult), they changed their policy to an import duty on each chest, varying at times from 125 to 700 rs., average lately 600 rs., payable in the native state, before the journey to the coast begins.

All this opium goes to China or to the Chinese residents of the Malay Archipelago. The extent of the traffic can be judged from the fact that in seven years, from 1849–50 to 1855–56, Calcutta exported 234,986 chests, and Bombay 166,446 chests. Of this total of 401,402 chests, 38,647 went to Singapore, Penang, Java, etc.

Previous to this period, however, the cultivation of opium had already spread over large districts of China itself. In 1830, a censor, Shaou Ching-wuh, of Che-kiang, reported its cultivation to have spread within the previous ten years over parts of Che-kiang, Foh-kien, Kuang-tung, and Yun-nan.* In 1831 opium was even exported from China to Ava.†

The first kind of Indian opium imported in China was "Patna," termed *kung-t'u*, which is made up into balls weighing a little over 4 lbs., and which is principally consumed in Canton and Shanghae. "Patna" was soon followed by "Malwa" opium, termed *kung-tze-pai*, which is chiefly used on the North River of Kuang-tung (Canton), and in the adjacent interior. This was afterward followed by the so-called "Benares" opium (identical in quality and properties with "Patna"), termed *ku-t'u*, which is mostly consumed in the four lower prefectures of Canton,‡ and is also sent to other provinces. The last foreign kind, finally, is "Persian" opium, or *chin-ta* (*golden*), which is regarded as hot and acid, having a fiery flavor, and causes often dysentery. It is all sent to the province of Kwang-si, as the chilly climate there is said to permit of its use.

In 1834 the Chinese Government took active measures to prohibit the introduction of opium. At the same time complications arose with England, owing to the haughty refusal of the Chinese to recognize the accredited representative, Lord Napier, who unfortunately died only three months after his arrival. He was succeeded by Mr., afterwards Sir, John F. Davis.

All communication between the Chinese Government and foreigners had, at that time, to be conducted through a company of thirteen native firms, styled the "Hong Merchants," or "Co-hong," who were made responsible by their government for the good behavior of the foreigners.§

The traffic in opium, although it had to be conducted clandestinely, appears nevertheless to have received the open protection of the foreign representative, as Sir Geo. B. Robinson, the successor of Mr. Davis, transferred his station from Wham-poa, the port of Canton and the only legitimate trading-place, to the island of Lin-tin, the acknowledged smuggling ground off the mouth of the Canton River.

As soon as the native merchants, from fear of punishment, declined to carry the drug in, the foreign merchants began to carry it in themselves in armed schooners manned by Lascars. Armed vessels, in the interest of the Company, patrolled the coast, to prevent opposition to the traffic. But finally the crash came. In 1839 the Chinese Imperial Commissioner, Lin, compelled the surrender to his government of 20,291 chests of opium (value over £2,000,000), all India grown, which he caused to be destroyed. This surrender was conceded, through necessity, by the superintendent, Capt. Elliot, to prevent violence to his countrymen. The effect of this proceeding was the well-known "Opium War," although other questions besides opium were at the bottom of it. In the subsequent treaty (Aug. 29, 1842), which opened the first ports of China to foreign trade, no mention is made of opium, except 6,000,000 dollars as indemnity for that destroyed by Lin.

The failure of all attempts to prevent the importation of opium should have taught the Chinese Government that their previous policy was radically wrong. The first who pointed out the remedy was the mandarin Heu Nae-tze, who, in 1836, memorialized his government to legalize its importation, for the purpose of better control, and who already pictured the sad effects of its use.* Neither this application, however, nor various others, made by natives and foreigners, were successful, until some time after the treaty of peace concluded by Lord Elgin at the close of the second Chinese war, commonly known as the Lorcha or Arrow War of 1857,† when the Chinese Government placed opium upon its tariff, with an import duty of 30 taels per chest.‡

The domestic cultivation of opium in China was carried on, up to 1817, almost solely in Yun-nan; between 1817 and 1848 it spread over Sze-chuen, Kwang-si, and Kwei-chow; and after 1848 the whole of western China became an opium-producing country, to which must be added the eastern provinces since about 1870.§ In 1872 the product in Sze-chuen alone amounted to 100,000 chests. This native opium is gradually but surely driving the imported from the Chinese market; a chest of Indian opium at the sea-coast is worth 425–510 taels, while native costs only, 250–300.‖

The fact that opium yields to the Chinese cultivator from 3 to 6 times the profits, which grain would have yielded, induces, more than anything else, the spread of its cultivation. It cannot fail that terrible consequences must ensue, especially in the interior, where many large districts are without good roads of communication. Insufficient crops of cereals and inability of moving them to destitute districts have often been the cause of terrible famines in China; how much more terrible must be the effects when so much of the soil is devoted to other purposes. Even within the last 10 years the rumor has reached the coast that in Kan-su human flesh was sold for food!

The evil effects of opium smoking are too well known to be detailed here at length; and it is only to be wondered at, how people can be found—and there are many such among the leading diplomats and merchants in India—who defend the practice. They argue that these lamentable consequences result from an *abuse* of the drug, as they would from alcohol, and not from its moderate use. Granted. But can there be such a thing as a moderate opium smoking or eating? It can only be moderate as to frequency of use, but never as to quantity taken, for it must be taken, to appear at all grateful, until it produces its full intoxicating effect. The exhilarating stage of the opium trance is too short and unenjoyable; the only thing wanted is complete intoxication.

* Chinese Repos., v., 372.
† Phipps, China and Eastern Trade, 231.
‡ See June number, p. 180, note †.
§ The monopoly of the Hong merchants was abolished July 27, 1843.

* Among other statements, he asserted that the children of confirmed opium-eaters are barren in the third generation.
† Oct., 1856, to June 26, 27, 1858, Treaty of Tientsin.
‡ Raised afterwards to 36 taels. But, contrary to the treaty, the Chinese Government levy, after the opium is landed, and before the importer can move it, an additional tax, called *likin;* and before it can be taken inland, another, called *tieh-hiang*, so that a chest of 120 catties or 160 lbs., besides the value of the opium itself, was subjected to the following dues:

	Taels.	Mehs.	Cash.	
Tariff duty	36	0	0	= $51.12
Likin duty	16	0	0	= 22.72
Tieh-hiang	7	0	0	= 9.94
Sycee premium	2	5	2	= 3.58
Total	61	5	2	= $87.36

§ Memorandum of Fin. Dept. of Indian Govt., Feb. 23, 1871.
‖ The cultivation in China of opium is still forbidden by the law. But the high tariff on the imported drug and the connivance of the officials amount practically to a sanction of its cultivation.

In the case of alcohol, however, a judicious man, who has control of his desires, need never exceed the primary exhilaration.

Native inveterate opium-smokers are easily and infallibly recognized by their emaciated, consumptive appearance, stooping gait, raised and bent shoulders, dark yellowish-gray complexion, blue lips caused by imperfectly arterialized blood, projecting and pouting mouth, caused by the large opium pipe; sunken cheeks, from the constant suction, small contracted pupil, unnatural lustre and blackness of the eye, and the dirty forefinger from manipulating the drug over the lamp.

The amount of opium imported into China in 1872 was:

Malwa	4,847,584	lbs.
Patna	2,128,931	"
Benares	982,072	"
Other kinds	117,439	"
	8,076,026	"
Re-exported	36,780	"
Total	8,039,246	"

worth £8,261,381.*

When China first began to cultivate the poppy, it was called *yung-su-kwa*, "jar-shaped flower (or capsule)," and when the juice was extracted, this was called "white smoke" or "white tobacco." Being first raised in Yun-nan, it is also called "Yun-nan white," *Yun-nan pai*. This comes to market in flat cakes, and is used all over China, only the rich using Patna or Malwa. The reason is, that the latter are only sold by the whole ball, costing about 24 dollars, while the native is retailed by the ounce or drachm. Besides Yun-nan, however, many other provinces produce also "white opium," particularly Sze-chuen, Kan-su, Shen-si, and Kwang-si, the product of which latter goes by the name of "Nan Hing White." Another kind, called "Paradise white," *tieng tang pai*, is produced in the magistracy of Sin-hing in Kuang-tung (Canton) province. Many districts have already arrived at a certain choice in taste, by making mixtures of domestic with foreign opiums, to satisfy the particular *goût* of the connoisseurs.†

In conclusion, we append a list prepared by Dr. Dudgeon, of the Peking Hospital, from the statistics of his practice, showing the percentage of *opium smokers* among different professions: small officials, 40%; agriculturists and field laborers, 4–6%; same in opium districts, 40–60%; merchants in Peking, 20%; same at treaty ports, 30%; followers and servants of mandarins, 70–80%; female "attendants," 30–40%; soldiers, 20–30%; the literary class, 20–30%; eunuchs of the palace, 50%; Manchu bannermen, 30–40%; male population generally, probably, 50%; general city population, 40–50%.

The Balance-Sheet of one Extract of Meat Company in London shows that that company alone makes a profit of nearly £60,000 a year out of this preparation. The shareholders get ten per cent., £10,000 is carried to reserve, and nearly £5,000 remains in hand.

Cheap Pencil-mark Eraser.—Caoutchouc is dissolved in carbon disulphide, the solution is intimately mixed with enough starch flour to form a dough, and exposing the mass, in suitable pieces, to the air, until all odor of carbon disulphide has disappeared. The product is an excellent eraser for lead pencil-marks from paper. If, in addition to starch flour finely powdered pumice-stone be added to the mass, it will be suitable for erasing ink-marks or writing from paper.

Water-Cresses as Cigarette-Wrappers.—A curiosity is exhibited at a New York cigar factory in the shape of cigarette papers made of water-cresses. They are manufactured largely in Spain, by a gentleman who was cured of a lung complaint by the use of water-cresses. They are of a greenish color, and of a heavy texture.

* Many of the foregoing facts are taken from F. S. Turner, British Opium Policy, 8vo., London, 1876.

† Consul H. Robertson's report in Commercial Reports of H. M. Consuls in China, 1875 [C.—1602], p. 13.

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TREATMENT OF DIPHTHERIA. By E. N. CHAPMAN, A.M., M.D. Buffalo, 1877. 8vo, pp. 13. Privately published.

THE treatment recommended embraces the liberal use of alcohol. Quinia and iron are also advised, but alcohol is claimed to be the most important remedy, and capable of greatly mitigating the severity of the disease.

BERICHT ÜBER DIE WELTAUSSTELLUNG ZU PHILADELPHIA. Herausg. von der Oesterr. Commission. IX. FRANZ WILHELM. Pharmaceutische und Technische Drogen und Chemikalien. 8vo, Wien, pp. 80.

IF we should have to furnish a specimen of how a Report on the International Exhibition should *not* be written, we could unhesitatingly offer a copy of the above. It is barely more than a catalogue of the various exhibitors, and their wares, without proper or judicious criticism of the manufactured products, and, moreover, full of mistakes as to names and as to facts. We hope to see more care bestowed on the publications of the Austrian Commission than has hitherto been the case.

TRANSACTIONS OF THE MINNESOTA STATE MEDICAL SOCIETY, 1877. St. Paul, 1877. 8vo, pp. 180. Published by the Society.

WE have before complimented the character of the work performed by this Society, and the papers and reports presented to it. The volume which has just come to hand shows that the Society fully sustains its reputation. Among the items of interest to the readers of this journal are the appointment of committees, on the recommendation of the President, to petition the State Legislature for the passage of laws to govern the practice of pharmacy, and to render vaccination compulsory. The Society adopted a resolution to memorialize Congress for a repeal of duty on quinia, and by another resolution reaffirmed their opinion that the legal test (110° Fahr. flash) for kerosene oil is too low for insuring safety, and asking that it be raised to 150° Fahr. Dr. Otis Ayer, of Le Seur, was elected *President*, and E. Phillips, M.D., of Minneapolis, *Corresponding Secretary*. The next meeting of the Society will be held on the third Tuesday of June, 1878, at St. Peter, Minn.

CUTANEOUS AND VENEREAL MEMORANDA. By HENRY G. PIFFARD, A.M., M.D., and GEORGE HENRY FOX, A.M., M.D. New York: William Wood & Co., 1877. pp. 301.

WE have observed of late such a marked tendency on the part of writers on affections of the skin to issue works in rapidly diminishing sizes, that we are disposed to think that the time is not far distant when some one of them will in brevity rival Mr. Abernethy, of whom the following is reported: Having occasion to lecture upon skin affections as a part of his course on General Surgery, he simply remarked that there were three classes of skin diseases: the first was curable by mercury; the second, by sulphur, and the third, the devil himself couldn't cure.

A very superficial survey, however, shows that the authors of this little work come far short of the conciseness of the famous surgeon, and by careful arrangement and judicious selection have included a large amount of information. It is, however, by no means calculated to take the place of extended treatises, but may be made to serve a very useful purpose in presenting, within brief limits, memoranda which will refresh the memories of those whose time and oportuni-

ties do not permit them to keep always posted on the subject. The first portion, on Skin Affections, is by Dr. Piffard; the chapters on Venereal Diseases, by Dr. Fox. The book is published in the style of the well-known "Anatomical Remembrancer," by the same house.

WOOD'S PHYSICIAN'S VADE-MECUM AND VISITING-LIST. Arranged and prepared by H. C. WOOD, M.D., Professor, etc. Philadelphia: J. B. Lippincott & Co.

THIS differs in some respects from any of the visiting lists heretofore published, and as it belongs to a class of literature too little cultivated by some medical men, we will mention its distinctive features. It is six and a half by four and a quarter inches in size, and half an inch thick—no longer than most of the visiting-lists published, but still too wide for convenience as a pocket-book. Inside of the front cover is an enamelled tablet for pencilled memoranda, which can be cleaned with water and a cloth or sponge; next follow Calendars for 1878 and 1879; Preface; Table of Contents; Decimal, or Metric System of Weights and Measures; Artificial Respiration by Sylvester's and Marshall Hall's Methods; The Symptoms, Nature of, and Antidotes to Various Poisons; List of Doses; Table for Calculating the Duration of Pregnancy, and the Use of Electricity (with illustrations showing course of nerves and points where muscles may best be stimulated).

The visiting-list is without dates, but has the initial of each day at the head of a column, and the top of the page has a blank form to be filled in with the date of the last day of the week. On the right-hand page is the usual space for memoranda, with the addition, at the foot, of a blank for recording office-cash received each day. The arrangement permits the list to be used at any time without reference to the month or year. Tables for recording Obstetric Engagements, Births, Deaths, and Accounts Rendered, follow, and the latter portion is provided with blank pages for memoranda and ruled pages for accounts. Inside the back cover is a pocket and pencil-slide. The binding is red leather to imitate Russia. Altogether, it is a handsome and convenient book.

ADDRESS ON OBSTETRICS. Delivered before the International Medical Congress at Philadelphia, Sept. 7, 1876. By THEOPHILUS PARVIN, M.D., Professor, etc. Extracted from the Transactions. Privately published. 8vo, pp. 31.

ON THE NATURE, ORIGIN, AND PREVENTION OF PUERPERAL FEVER. By WILLIAM T. LUSK, M.D., Professor, etc. Extracted from the Transactions of the International Medical Congress, Sept., 1876. Privately published. 8vo, pp. 29.

THE VIRUS OF VENEREAL SORES; ITS UNITY OR DUALITY. By FREEMAN J. BUMSTEAD, M.D. Extracted from the Transactions of the International Medical Congress, Sept., 1876. Privately published. 8vo, pp. 10.

A NEW LIGHT ON FLORIDA. Pensacola (the Naples of America) and its Surroundings Illustrated. New Orleans, Mobile, and the Resorts of the Gulf Coast. By W. D. Chipley, Gen. Manager Pensacola R.R. 8vo, pp. 31.

MEDICAL PLANTS: being Descriptions with Original Figures of the Principal Plants employed in Medicine, and an Account of their Properties and Uses. By ROBERT BENTLEY, F.L.S., etc., and HENRY TRIMEN, M.B., F.L.S., etc. Philadelphia: Lindsay and Blakiston. $2 per part.

PARTS 14, 15, and 16 of this publication have come to hand, and contain handsome colored plates and descriptions of the following plants:

PART 14.—Stavesacre (*Delphinium Staphisagria*), Tormentil (*Potentilla Tormentilla*), Squirting Cucumber (*Ecballium Elaterium*), Caraway (*Carum Carui*), Scammony (*Convolvulus Scammonia*), Lavender (*Lavandula vera*), Catnep (*Nepeta Cataria*), Horehound (*Marrubium vulgare*).

PART 15.—Coca (*Erythroxylon Coca*), Broom (*Cytisus Scoparius*), Cherry Laurel (*Prunus Laurocerasus*), Blue Gum-Tree (*Eucalyptus globulus*), Ipecacuanha (*Cephaëlis Ipecacuanha*), Rosemary (*Rosmarinus officinalis*), Bay (*Laurus nobilis*).

PART 16.—Pomegranate (*Punica Granatum*), Kassnih (*Ferula galbaniflua*—the source of Galbanum), Yarrow (*Achillea millefolium*), Wild Lettuce (*Lactuca virosa*), Thibetan Rhubarb (*Rheum officinale*)—see NEW REMEDIES, vi., p. 98, Virginia Snakeroot (*Aristolochia Serpentaria*), Rice (*Oryza sativa*).

DOUZE CENTS FORMULES FAVORITES des Médicins Français et Étrangers. TWELVE HUNDRED FAVORITE FORMULAS of French and Foreign Physicians. By DR. N. GALLOIS. 2d ed., revised and enlarged. Paris: J. B. Baillière & Sons. 1877. 12mo, pp. 532.

THESE formulas are reprinted from *L'Union Medicale*, and embrace a great range and variety—as their number would indicate. While some of the pharmaceuticals entering into the prescriptions are unknown in this country, especially in the case of those derived from French sources, and a large proportion of the formulas are of no practical value whatever, there are still some which seem to be worthy of attention. Of the latter sort we will make future mention. Quite a remarkable feature for a French book is the comprehensive index which is supplied.

Announced.

Binz (C.). The Elements of Therapeutics: a Clinical Guide to the Action of Drugs. Translated from the 5th Ger., by E. I. Sparks, M.B. Churchill.

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Squire (P.). Companion to the Latest Edition of the British Pharmacopœia. 11th ed. Edited by P. W. and A. H. Squire. 8vo, pp. 482. Churchill. 10*s.* 6*d.*

Thorpe (T. E.). A Manual of Inorganic Chemistry. Vol. I.: The Non-Metals. New Edition, with copious Index and Examination Questions and Exercises. 12mo, pp. 414. Collins. 3*s.*

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Rau (A.). Die Grundlagen der modernen Chemie. 8vo. Braunschweig. $9.00.

Grothe (Dr. H.). Die Industrie Amerika's (U. S.), ihre Geschichte, Entwicklung und Lage unter bes. Berücksichtigung der Volkswirthschaft und Handelspolitik, der Erfindungen und Fortschritte des Maschinenwesens, etc., und der Weltausstellung zu Philadelphia. (Profusely illustrated.) 8vo. Berl. $9.20.

Ledebur (Prof. A.). Die Verarbeitung der Metalle auf mechanischen Wege. Lehrbuch d. mechanisch-metallurgischen Technologie. 8vo. Braunschweig. In about 6 parts, à $2.20.

Menuschkin (N.). Analytische Chemie für den Gebrauch im Loboratorium und für das Selbststudium. Übers. v. Dr. O. Bach. 8vo. Leipzig, 1877. pp. 480. $2.60.

Hogg (W. D.). De l'usage thérapeutique de l'acide salicylique, ses composés et accessoirement de la salicine. Delahaye & Cie. Paris. 3fr.

Carry (Dr.). Du role et des indications des bains dans les maladies de la peau. Delahaye & Cie. Paris. 2fr. 50c.

Guide pratique pour servir à l'examen des caractères physiques, organoliptiques et chimiques que doivent présenter les préparations pharmaceutiques officinales inscrites au Codex, ainsi qu'a l'essai des médicaments chimiques. Asselin. Paris.

Onimus (Dr.). Guide pratique d'électrothérapie. G. Masson. Paris. 5fr.

TRADE NOTES.

Nassau, New Providence, as a Winter Resort.

THERE is no climate, as easily accessible from the eastern side of this continent, which presents the advantages to be found at Nassau, the capital of the Bahama Islands. The gulf-stream flows northeastward between the islands and the mainland, and effectually protects them, by its warmth and the clouds of vapor which overhang it, from the cold west and northwest winds. The air is laden with moisture, the changes in temperature are slight, and almost invariably the weather is such as to allow out-of-door exercise during the whole and every day. Winter rains are of infrequent occurrence, the abundant dew which is deposited after nightfall taking their place.

The winters are so mild that there is only one house in the town having a chimney besides the one belonging to the kitchen. The resident physicians are well-educated and reliable men. The citizens are hospitable in an unusual degree. The amusements are not numerous, but the hunting, fishing, and sailing are superb, and the roads are like floors. The water is pure, the town is clean, the hotel is a marvel of neatness, and its table (at least it was when we were there last winter) all that can be desired.

The climate is best adapted for affections of the nervous system; for persons suffering from malarial affections, and from diseases of the respiratory organs attended with a dry and troublesome cough. Catarrhal troubles of the nose and pharynx are very much helped, and dyspeptics do well there. Persons suffering with a cough accompanied with profuse expectoration, should not visit the Bahamas, nor is the humidity of the atmosphere adapted to those who have excessive perspiration.

A line of steamers, direct from New York, stops at Savannah, and shortens the trip by sea to about forty hours (and that over smooth water).

Murray, Ferris & Co., 62 South Street, will supply any information regarding passage, expenses, etc.

Fluid Extract of Fucus Vesiculosus.

IN connection with the article on page 322, relative to the use of bladder-wrack in the treatment of morbid corpulence, and the necessity there referred to, for care in the selection of the variety of wrack from which to prepare the remedy, we ask the attention of our readers to a very handsome fluid extract of the drug, made by Theodore Metcalfe & Co., of Boston, whose preparations of all kinds are very highly esteemed. The usual strength of one grain to the minim is followed, and the dose for an adult is one-half to two teaspoonfuls. The price to physicians, in pint bottles, is $2.50 each; in four-ounce bottles, $8.50 per dozen.

Laxative Elixir of Rhamnus Frangula.

ANOTHER preparation which has become one of the specialties of Theodore Metcalfe & Co., is an elixir of buckthorn bark. In 1875, Mr. C. Umney* called attention to the adulteration of the juice of the berries of *Rhamnus catharticus* and the consequent inertness of the syrup and other preparations made from it. At the same time he proposed that the bark of the *R. Frangula* should be substituted for it, since it could be had for purposes of manufacture at all seasons, and would produce a milder and more reliable preparation. The result has been to direct attention to the bark of the buckthorn, and experience has shown it to be a pleasant and gently stimulating aperient, well calculated to take the place of castor-oil as commonly administered. It so happens, however, that this is not the only use to which the buckthorn or black dog-wood is put, since its wood makes the best variety of charcoal for the manufacture of gunpowder. It is unfortunate that just as the demand for the bark for medicinal purposes begins to be appreciable, the market for gunpowder has become extremely brisk. The chances of adulteration of the bark are therefore increased, and it is well to have the guarantee of such manufacturers as the ones referred to, to insure the purity of the remedy.

The price of the elixir is $1.25 per pint, or $10.50 per doz., to physicians. The same house makes a fluid extract.

Slippery-Elm Bark.

PERSONS whose ailments require that they should consume the powdered inner bark of the slippery-elm (*Ulmus fulva*), in the shape of poultices or infusions, have probably but an inadequate idea of the method of its preparation, and the following extract from the letter of a correspondent will be of interest to them as well as to dealers:

"I visited to-day the slippery-elm mill of A. J. Wiggin, St. Johns, Mich., from which are furnished large quantities of that useful product in all the different forms necessary for the use of the manufacturing and retail druggist.

"Bark of best selected quality, very clear and white, is chosen, and before grinding is thoroughly kiln-dried, cut into minute sections, passed through a picking-machine and thoroughly disintegrated, then through an iron mill, and ground to a perfectly soft mass. To produce the powder, this latter stock is treated to a grinding between the best and finest burr stones, and to two boltings—the first retaining most of the mucilaginous element, and the second furnishing a quality sufficiently good for some purposes. The prices at which he will place his goods in New York were so reasonable that I append them:

"The powdered in 1 and 2 oz. pkgs., in 50 lb. cases, the 2 oz. for 15c., and the 1 oz. for 16c. The ground in 4 oz. pkgs., 50 lb. cases, at 10c. Bulk prices: ground, $8.00 per cwt; powdered, first bolting, $12.00 per cwt.; second bolting, $10 per cwt.; of these two grades the first is strictly pure. These prices include boxing, etc."

Trousseau's French Carbonated Meat.

WM. R. WARNER & Co., 1228 Market St., Philadelphia, are the proprietors of Trousseau's Carbonated Meat for use in consumption and other exhausting diseases. It is nicely put up in paste-board boxes, and is, in appearance, a steel-gray or ash-colored powder, of which the dose is a teaspoonful four times a day, gradually increased and taken in some beverage or extract of malt. The boxes retail for $1.00.

* *Pharm. Jour.*, 3d. ser., v., 21.

ANALYSES OF PHARMACEUTICAL CHEMICALS AND PREPARATIONS.

We are now prepared to send samples for the January prize to such as may desire to compete for it. Answers must be received before the 20th of December, and be accompanied by a sealed envelope containing the name of the writer, and designated by a device or motto, which is also to be placed, instead of the writer's name, upon the report of the analysis.

Persons to whom a prize has been awarded are requested to send to the publishers the title of any book or books they may desire, not exceeding in the aggregate the value of $10.00.

The prize this month will be awarded to F. W. ZIMMER *("Serpent") of Rochester, N. Y.*

THE sample for the November analysis contained native sulphide of antimony, eighty per cent., and commercial "black lead" (plumbago), twenty per cent.

It is a well-established fact that very little of the "black antimony" now sold is even of fair quality. Many analyses, published during the past few years, show that charcoal, stove coal, plumbago, sand, iron-filings, sulphide of iron, and, in fact, all things *cheap* and *black*, are common adulterants.* Within the past year it was discovered that in at least one Western, and one Eastern city, four grades of "black antimony" were sold, containing from twenty or twenty-five per cent. of plumbago, up to one hundred per cent., the remainder, if any, being sulphide of antimony.

The greater portion was sold to railroads and machinists, as a lubricating material for axles, etc., but many retail druggists availed themselves of the low prices then in vogue, and bought the cheapest grades.

As a natural consequence, the substance did not give satisfaction, even as "horse medicine," and many complaints were made. A moral might easily be drawn at this point in regard to the poor economy in buying anything, especially a drug, merely because it is cheap, and sold at a price below its actual value. It is a good rule to suspect the purity of any drug sold at a price so near the cost of production as not to leave a moderate profit for the seller. In case any drug is suspected to contain impurities, it should, as a matter of course, be tested.

The Pharmacopœia defines "antimonii sulphuretum" as "native tersulphuret of antimony, purified by fusion."

As thus prepared, it is liable to contain more or less earthy matter, together with traces of the sulphides of iron, lead, and arsenic.

The present sample contained considerable ferrous sulphide, and a little silica; the plumbago also contained a little iron.

The U. S. P. tests are good, as far as they go, but they do not exclude small amounts of iron, lead, or arsenic.

A pure black sulphide of antimony would answer the following tests:

1. Entirely soluble in boiling hydrochloric acid, with evolution of hydrosulphuric acid, and formation of $SbCl_3$.

2. This solution poured into water forms a white precipitate (SbOCl), known as "Powder of Algaroth." This precipitate when treated with ammonic hydrate, forms "antimonii oxidum" of the Pharmacopœia; thus, $2SbOCl + 2NH_4OH = Sb_2O_3 + H_2O + 2NH_4Cl$.

This antimonious oxide dissolves in warm solution of potassic bitartrate, forming tartar emetic, "Antimonii et potassii tartras."

$Sb_2O_3 + 2KHC_4H_4O_6 = 2KSbO(C_4H_4O_6) + H_2O$.

3. The filtrate, after removal of the SbOCl, gives an orange-red precipitate, with hydrosulphuric acid (Sb_2S_3).

This precipitate is insoluble in solution of ammonic carbonate—distinction from arsenious sulphide. Also, it is entirely soluble in ammonic sulphide. Sulphides of lead and copper are black, and are insoluble in ammonic sulphide.

4. After removal of the Sb_2S_3, the filtrate gives no blue precipitate with potassic ferricyanide, and no red solution with potassic sulphocyanide—absence of iron, ferrous or ferric.

5. The black sulphide of antimony is dissolved by large excess of hot solution of sodic carbonate, $Sb_2S_3 + 2Na_2Co_3 = Na_3SbS_3 + NaSbO_2 + 2CO_2$.

This solution, on cooling, deposits a slight brown precipitate.

$2Na_3SbS_3 + 2NaSbO_2 = (Sb_2S_3Sb_2O_3) + Na_2O + 3Na_2S$. Formation of "Antimonii oxysulphuretum."

6. The black sulphide also dissolves in hot solution of potassic hydrate, with formation of antimonite and sulphantimonite ($KSbO_2$ and K_3SbS_3). This solution, when acidified, precipitates $Sb_2S_3KSbO_2 + K_3SbS_3 + 2H_2SO_4 = Sb_2S_3 + 2K_2SO_4 + 2H_2O$.—formation of "Antimonii sulphuretum."

Other special tests for arsenic,* lead, and copper, should be applied.

The use of ammonic sulphide in testing for antimony, as directed by the U. S. P., is objectionable, because it will redissolve any antimonious sulphide it produces, if it is added in excess.

The sample just examined is best treated as follows: Boil with successive portions of hydrochloric acid until it fails to dissolve any more of the substance. The solution may be tested for antimony and impurities. The insoluble residue may now be water-washed and dried, when it will exhibit the physical properties of "black lead," and of sand. This residue fused on platinum foil with potassic nitrate, forms potassic carbonate and potassic silicate. The presence of carbonate and silicate in this fused mass proves the presence of carbon and silica in the insoluble residue.

The prize for the best analysis has been awarded to "Serpent."

The analyses of "Birdie" and "Spero" were excellent; "Amateur" and "S. V." also did quite well.

Any mistakes made by contestants are explained in the article above.

The sample for the December analysis is found among the preparations of the U. S. P., and is supposed to be perfectly pure; state whether, in your opinion, this is the case.

The January sample will be of *organic* origin; it will consist of one or more pharmacopœial substances which can easily be identified by chemical and physical properties. A more definite announcement will be made next month.

A number of answers were received too late for competition.

* W. C. Sheffield, *Amer. Jour. Phar.*, Sept. 1876.

NOTES, QUERIES AND ANSWERS.

[*Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us as come within the scope of this journal, provided they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue.*]

Precipitate in Tincture of Iron (J. G. K., M.D., N. Y.).—The white precipitate which you say is formed by mixing tincture of iron with a saturated solution of potassium bromide, consists of potassium chloride, which is but little soluble in an alcoholic liquid. The ferric chloride is at the same time converted into ferric bromide.

* "Davy's test" for arsenic is very delicate. See NEW REMEDIES, vol. v., p. 108. This test is said to detect one grain of arsenic in 476 pounds of sugar.—*Amer. Jour. Phar.*, Oct. 1877, p. 489.

Anatherin-Mundwasser (O. H., Cincinnati, O.).—This is an aromatic collutorium or gargle, composed of tincture of myrrh, guaiac, cinnamon, cloves, and red saunders.

Cautery Fluid (L. V. M., New York).—The best fluid as an excitant for zinc-carbon batteries to be used for cauterizing purposes is the following: Mix 80 fl. oz. of sulphuric acid (common) with 10 pints of water; pour the mixture upon 4 av. lbs. of potassium bichromate, and stir well for 5 minutes; then add 20 pints more of water. When cold, add 50 fl. oz. of sulphuric acid. Competent surgeons claim that if the directions above given be departed from, the effect of the solution is much impaired. When it is desired to increase the intensity of the action, a small quantity of a solution of ammonium nitrate in nitric acid may be added to each cup of the battery.

Removing Iodine Stains (W. R., M.D., Virginia City, Nev.).—Cyanide of potassium is the substance generally used, but its employment is fraught with danger, as it may be absorbed through abrasions of the skin. A much safer way, and equally expeditious, is to soak the stains, whether on the hands or on dresses, with a strong fresh solution of iodine, and after a few minutes to treat them with a concentrated solution of sodium hyposulphite. The iodine converts the silver into iodide, which is afterwards dissolved off by the hyposulphite.

Stokes' Liniment (O. G. H., M.D., Nashville, Tenn.).—The formula adopted by the American Pharmaceutical Association, on the recommendation of the Committee on Unofficinal Formulæ, is as follows:

Oil of turpentine	3 fl. oz.
Acetic acid	½ fl. oz.
Yolk of egg	1.
Rose-water	3 fl. oz.
Oil of lemon	60 min. Mix.

Salicylate of Iron (W. S. Th., M.D., Buffalo, N. Y.).—Such a preparation has been in use in this city for a short time. A formula for its preparation will be given in our next number.

Cologne (A. H., Galena, Ill.).—The formula you inquire about is the following, which is much used in the North of Europe:

Oil of Bergamot	30	parts.
" " Cedrat	5	"
" " Neroli (fresh)	2.5	"
" " Cloves	1	"
" " Rosemary	2	"
" " Lavender	2	"
Alcohol (pure)	1,500	"
Rosewater	q. s.	

Mix. Distil until there are obtained 1,500 parts.

Elastic Varnish for Paper, Drawings, etc. (B. F., Jackson, Ala.).—30 to 40 gm. of Damar are dissolved by digesting in 180 gm. of acetone, the clear solution is poured from the sediment, and every four parts of it are mixed with three parts of rather thick collodion. This varnish may be applied directly upon the paper by means of a soft beaver-hair brush in vertical strokes. After the first coat is dry, another one is applied in the opposite direction.

Wernich's Ergotin (R. L., Harrisburg, Pa.).—The formula, which we gave you in our last number, on the authority of No. 69 of the *Pharm. Zeit.*, has been corrected by a correspondent of the latter journal, in No. 73, who states that Wernich's original preparation was directed to be made as follows: Powdered ergot, freed from oil, is completely exhausted with distilled water at 80° C.; the watery solution is evaporated, as *rapidly as possible*, to a syrupy consistence, and then transferred to a dialyser, where it is allowed to dialyse on distilled water, until the latter ceases to absorb anything. The solution remaining on the dialyser is then again evaporated to the consistence of an extract; and this is the substance in question.

Gregory's Powder (W. A. S., Dalton, O.).—This is an old name of the compound powder of rhubarb (Pulvis Rhei compositus), officinal in the U. S. and Brit. Pharmacopœias.

Thymol (J. A. McF., Richmond, Va.).—This substance, which is homologous to phenol, and isomeric with carvol and cuminic alcohol, and is sometimes called thyme-camphor or thymic acid, has the composition $C_{10}H_{14}O$, is found in the ethereal oils of *Thymus vulgaris* L., *Monarda punctata* L., and *Ptychotis Ajowan* DC. It may be obtained by shaking the oil with soda, and decomposing the sodium compound with dilute hydrochloric acid. It has strong antiseptic properties, almost as strong as phenol, and has the advantage of not being caustic, and possessing an agreeable odor.

Orlean (S. W. P., Detroit, Mich.).—Orlean, Orleans, Anotto, Anatta, Arnotto, Attalo, Achioti, etc., are names of the yellowish-red coloring matter prepared from a red waxy substance surrounding the seeds of the American Uruku tree, *Bixa Orellana* L., which is also cultivated in East Indies and in Cayenne. The seeds are crushed and allowed to ferment; the coloring matter is then washed away from the seeds on sieves, and is brought into the market in form of a doughy mass, having an odor of putrid urine, and containing about 70 per cent. of water, and only about 6 per cent. of pure coloring matter. The purer Bixine of commerce is obtained by washing the coloring matter out and precipitating it by alum (probably). It is used for dyeing, and for coloring oils, fats, varnishes, butter, and cheese.

Bitter Cane.—A correspondent of ours desires information on the following:

DEAR SIR—Can you or any of the readers of your journal kindly furnish me with any information respecting the plant called the "bitter cane" *(Caña Agria)*, indigenous to South America? Mention of it has lately occurred in *La Andalucia Medica*, and also in the *Revista Medico-Quirúrgico de Buenos Aires*. The juice is said to be much esteemed by the natives of South America as a remedy in diabetes, and M. Gubler, of Paris, has also tried it, I believe, in one or two cases.

W. K. N. (N. Y.).—We are unable to give the composition of the nostrum you inquire about.

Thalleioquin (J. B., New London, Conn.).—This is a green substance which is precipitated by adding to a solution of quinia or its sulphate (or to a solution of quinidia), chlorine water, and afterwards ammonia. It is a resinous body, is insoluble in water and ether, soluble in alcohol and glycerine, fusible, is colored blue by acetic acid, discolored by stannous chloride, and turned pale green by mercuric chloride. Its alcoholic solution diluted with water dyes silk, wool, and cotton (the latter must be previously mordaunted with albumen) of a green color. Its composition is $C_{28}H_{23}N_2O_5$. The production of this substance constitutes the thalleioquin reaction in testing for quinia or quinidia. The name is derived from the Greek *thalleion* (θαλλεῖον), olive branch, and the first part of the word quinia, and means "quinia-green (olive-green)."

About 300 women are now studying medicine in Russian schools, seventy-eight of them being married.

Diorrexin is the name of a new blasting compound, manufactured at Sistiana near Trieste, and at Brunn near Wiener Neustadt. It consists of: picric acid 1.50, wood charcoal 6.82, beechwood saw-dust 9.98, saltpetre 33.93, sodium nitrate 21.07, sulphur 12.20, water 9 parts.

Administration of Salicylic Acid.—M. Gueneau de Mussy's method of administering salicylic acid is to dissolve it in a syrup of gum by the aid of ten times its weight of brandy, and adding to it a little lemon-juice. [A cock-tail with salicylic acid instead of Stoughton bitters?]

The Michigan Pharmaceutical Association met at Detroit on the 17th of October.

PRESCRIPTIONS AND FORMULÆ.

Hydrobromic Acid in Prescriptions.—In the *Detroit Medical Journal* for October, Dewitt C. Wade, M.D., of Holly, Mich., who was one of the first to call attention to the therapeutical value of hydrobromic acid, gives the following formulæ for its employment:

His original formula, from which the first preparation was made, called by him "dilute hydrobromic acid," is as follows:

I. Bromide of potassium..... 120 grains.
Crystallized tartaric acid..... 153 grains.
Water..... 1 fluid oz.

"Dissolve the salt and then the acid in the water, and place in cold water for several hours, or until precipitation ceases, and decant. The results of the reaction are the formation of bitartrate of potassium (cream of tartar), which is nearly insoluble, and sufficiently pure hydrobromic acid diluted with water, each fluid drachm of which contains ten grains of bromine. By preserving this proportion, any quantity can just as readily be made. For forty fluid ounces the following formula is exact enough for practical purposes:

II. Bromide of potassium, 10 Troy or 11 avoir. oz.
Cryst. tartartic acid.. 12⅞ Troy or 14 avoir. oz.
Water..... 40 fluid ounces.
Proceed as before.

"The affinity of hydrobromic acid for bases is between that of hydrochloric and hydriodic acids. I have prescribed it most frequently in half-drachm doses well diluted.

III. Dilute hydrobromic acid,
Syrup..... of each one fluid ounce.
Mix and write—Teaspoonful in water.

"This is not unpleasant to the taste, and may be given to obtain the constitutional effects of bromine as usually administered in combination with a base. It also acts like other mineral acids in being tonic, refrigerant, solvent, alterative, etc., and is very useful in the 'bilious' conditions, including fevers, where the morbid symptoms recede with the coating on the tongue. I use little else in remittent fever.

IV. Sulphate of quinia..... 15 to 80 grains.
Dilute hydrobromic acid,
Syrup..... of each one fluid oz.
Mix and write—Teaspoonful in water.

"This is extremely bitter, and in this respect cannot be improved by other additions. Like other acidulous preparations it is incompatible with liquorice. Bromine has the power of modifying, in a marked degree, the cerebral effects of quinia; hence the value of this combination, aside from the alterative and other properties of the acid. In all cases of intermittent fever, I continue an antiperiodic from ten to thirteen days after the paroxysm ceases, and for permanent and other satisfactory results, this combination has proved to be far superior in my hands to any other not containing the acid.

V. Sulphate of cinchonia... 15 to 45 grains.
Dilute hydrobromic acid,
Syrup..... of each one fluid ounce.
Mix and write—Teaspoonful in water.

"I can discover no difference in the effects of cinchonia and quinia, except that the latter is to be preferred as a stimulant. I prescribe cinchonia because of its cheapness.

VI. Red iodide of mercury..... one grain.
Dilute hydrobromic acid.... one fluid oz.
Fluid extract of orange peel,
Syrup..... of each four fl. drms.
Mix and write—Teaspoonful in water.

"The iodide of mercury is decomposed, the bromide being formed with the elimination of the iodine in the form of hydriodic acid. Mercury may be given in this manner for a long time without producing ptyalism, the salt being rapidly excreted.

VII. Fluid extract of ergot,
Syrup..... of each four fluid drms.
Dilute hydrobromic acid, one fluid ounce.
Mix and write—Teaspoonful in water.

"I do not believe that any other combination equals this for efficiency in cases of cerebral hyperæmia. It is not only indicated where venesection would appear beneficial, but it may be administered by enema in a case of intercranial hemorrhage, with the likelihood of arresting the transfusion, by capillary constriction, when an additional depletion of the arterioles, by artificial abstraction of blood, would still further endanger life without influencing the hemorrhage, and is consequently positively contraindicated. [Ergot does not affect the capillaries, but causes contraction of the muscular coat in the small arteries; there are no muscular fibres in the capillaries]

"Ergot and hydrobromic acid will be found to be promptly useful in the vertigo of plethora, with confusion of ideas, or where a determination of blood to the brain is prone to occur from other causes.

VIII. Fluid extract of stramonium. 160 drops.
Dilute hydrobromic acid,
Syrup..... of each one fl. oz.
Mix and write—One-half teaspoonful in water, the dose to be increased until the specific effects of the stramonium are marked, and there to be maintained.

"I offer this combination as a prescription for epilepsy. I will simply say of it, that its effects in this disease are remarkable, and I think I have reason to consider it superior to any other plan of medication.

IX. Tartar emetic..... 2 grains.
Denarcotized tincture of opium... 2 fluid drms.
Dilute hydrobromic acid..... 1 fluid ounce.
Syrup, to make..... 2 fluid ounces.
Mix and write—Teaspoonful in water.

"For acute or chronic bronchitis.

X. Syrup of bromide of iron..... 4 fl. drachms.
Bromide of quinia..... 16 grains.
Dilute hydrobromic acid..... 1 fl. ounce.
Syrup..... 4 fl. drachms.
Mix and write—Teaspoonful in water.

"The wide applicability of this tonic is readily suggested by its composition.

XI. Sub-carbonate of bismuth..... 80 grains.
Dilute hydrobromic acid..... 1 fl. ounce.
Dissolve and add
Saccharated pepsine..... 80 grains.
Syrup, to make..... 2 fl. ounces.
Mix, filter and write—Teaspoonful in water.

"This is preferable to ammoniated citrate of bismuth with pepsine, because it is not only permanent in the bottle, but it is not precipitated in the stomach, as is the citrate. Its indications are evident to the professional reader. To it may be added pancreatine, with or without the pepsine.

. . . . . .

"Elixirs instead of syrups may be substituted, and additions of flavors may be made to render the medicine more palatable. The doses given are for adults, and the frequency of their repetition in each case is to be determined in accordance with the circumstances."

Fluorescent Mixture.—A correspondent sends us the following prescription, which he finds to be so strongly fluorescent, that it resembles a mixture containing quinia:

Potassii cyanidi..... gr. ij.
Chloroformi..... gtt. l.
Syr. Pruni Virgin.,
Glycerinæ..... āā fl. ʒ ij.
Mix.

Rat-Poison (*Hager*).

Castor oil seeds, freed from the shell.. 100 parts.
Calabar beans, " " .. 20 "

Bruise them in a mortar, until they form a smooth paste; then add:

Squill, powdered,
Wheat-flour.....āā 50 parts.
Fresh lard..... 60 "
or q. s. to make a mass of proper consistence.

Quinia in Small Doses in Malarial Diseases.—A correspondent of the *American Practitioner* (October) writes that Dr. Charles R. Greenleaf, U. S. A., gives the following formula as coming from an army surgeon, whose name and present residence were forgotten. The dose mentioned, it is claimed, will secure the full antiperiodic effects of the remedy, and prevent a recurrence of an attack of intermittent fever.

℞. Quiniæ sulphatis..... gr. ij.
Acid. citrici..... gr. iij.
Rub fine together and dissolve in
Aquæ..... ʒ ss.

Potassæ iodidi..... gr. iij.
Aquæ..... ʒ ss.

Mix the two solutions together, and administer the whole quantity at a dose.

Solutions of Quinia for Hypodermic Use.—In his recent work on fevers [see notice in December] Professor Loomis gives the following formulæ for solutions of quinia for hypodermic use in remittent fevers:

"The solution of quinia, commonly employed by the English surgeons for this purpose, is made by adding 150 grs. of quinia and 50 drops of dilute hydrochloric acid to 4 oz. of water, and then evaporating the solution to 2 oz. Of this 30 drops may be administered at each injection. Some add carbolic acid to a solution of quinia in dilute sulphuric acid. The carbolic acid is added to prevent abscess at the point where the injection is introduced.

"The formula for this solution is as follows:

℞. Quiniæ disulphatis..... grs. l.
Acidi sulphurici..... ♏ v.
Acid. carbolici..... ♏ ij.
Aquæ distillat..... ʒ j.
M.

"Thirty minims is the quantity usually administered at each hypodermic injection; it represents between 3 and 4 grains of quinia. I have recently used the following:

℞. Quiniæ sulph..... ʒ j.
Acidi hydrobromici..... ʒ ij.
Aquæ distillat..... ʒ vj.
M.

"Thirty minims contain 4 grains of quinia."

Treatment of Dysmenorrhœa.—In dysmenorrhœa of a rheumatic character, when the pain is severe and the flow scanty, N. S. Davis, of Chicago, uses the following:

℞. Tinct. cimicifugæ..... ʒ iij.
Tinct. stramonii,
Vini colchici radicis..... āā ʒ ss.
M.

Take one drachm at each meal-time in water. If by long continuance or unusual susceptibility, the cimicifuga causes dull headache, as is sometimes the case, either the dose may be lessened or fluid extract of cypripedium may be substituted. The colchicum may be lessened in proportion to the other ingredients, if the bowels are disturbed.

When the pain and soreness extend to the ovarian region, the following has been serviceable:

℞. Ammoniæ hydrochlor..... ʒ iij.
Tinct. stramonii..... ss.
Tinct. cimicifugæ rac..... iss.
Syr. glycyrrhizæ..... ʒ ij.
M.

Take one teaspoonful at each meal-time in a tablespoonful of water.

In a recent case characterized by extremely painful menstruation accompanied by severe headache, continuing in less degree through the interval between periods, some constipation and slight feverishness, Dr. Davis ordered:

℞. Acid. salicylici..... ʒ iij.
Sodæ bicarb..... ʒ ij.
Tinct. stramonii,
Vin. colchici rad..... ....āā ʒ iv.
Glycerinæ (puræ)..... ʒ i.
Aquæ..... ʒ iij.
M.

Of this the patient took one teaspoonful before each meal-time and at bed-time in a little water. Three weeks after commencing the use of the remedy menstruation took place without pain, for the first time in several years. Bathing and other hygienic measures were also employed in this case.

NEW PATENTS.

[*We will furnish gratis, to subscribers, any information relating to new patents which can be obtained from the Official Gazette of the Patent Office; and for 50c. will give copies of the drawings of such as are illustrated. Electrotypes of the illustrations contained in* NEW REMEDIES *will be furnished for 50c. per square inch.*

TRADE-MARKS REGISTERED DURING SEPTEMBER.

Medicinal Compounds.

5,115. Himrod Manufacturing Company, New York, N. Y. The fac-simile signature of "Peter Himrod," used in conjunction with the words "Himrod's Cure."

5,120. George D. Cooney, Bayonne, N. J. The word-symbol "Hygeia."

5,135. Merriam & Frost, Springfield, Mass. The symbol representing the head, neck, and shoulders of a female, engraved upon a black background.

5,141. Perley Jeffers, Chicago, Ill. "My own portrait and fac-simile of signature."

5,144. Andreas Saxlehner, Pesth, Austria. The word-symbol "Hunyadi János."

5,148. Warnick & Reid, Amsterdam, N. Y. The word-symbol "The Little Old Dutch Doctor's."

5,162. Ch. Berteaux & Radou, New York, N. Y., and Paris, France. The word-symbol "Carmelite Melissa."

5,163. William W. Brownfield, St. Louis, Mo. The word-symbol "Breakers."

5,165. Jeremiah Curtis & Sons, New York, N. Y. The title or designation "Mrs. Winslow."

5,175. William A. Reddick, Niles, Mich. The coat of arms of the State of Michigan with a hog in the shield. [Hog-cholera medicine.]

Cosmetics and Soap.

5,110. Azariah Connelly, New York, N. Y. The fanciful words "Connelly's Salvation for the Hair."

5,125. Lincoln & Holbrook, Boston, Mass. The word-symbol "Relief."

5,136. Francis M. Plims, Dubuque, Iowa. The fanciful words "Wash and be Clean."

5,156. Procter & Gamble, Cincinnati, Ohio. The diagonal red bar or ribbon, the same being used in connection with the words "Mottled German."

5,157. The same. The diagonal green bar or ribbon used in connection with the words "Oleine Oxide."

Paints.

5,184. Standard Oil-Paint Company, Cleveland, Ohio. The word-symbol "Shaker."

Carbonated Beverages.

5,171. The firm of John Matthews, New York, N. Y. A group of figures representing a bear, a soda-fountain, and a boy, arranged as shown.

LABELS GRANTED DURING SEPTEMBER.

1,172. "Witch Hazel Liniment." Benjamin W. Dyer, New York, N. Y.

1,173. "Iron Condition Powders." Benjamin W. Dyer, New York, N. Y.

1,178. "Niles Cathartic Pills." Edward C. Ensign, Waymart, Pa.

1,187. "Dr. Blank's Black Medicines," etc. Oscar Blank, St. Louis, Mo.

1,190. "Bassett's Combination Burgundy Pitch Plaster." D. H. Bassett, Pittsfield, Mass.

PATENTS GRANTED DURING SEPTEMBER.

Sept. 4th.

Beeswax, process of bleaching, H. T. Yaran	194,799
Bottle stopper-fastener, F. J. Seybold	194,931
Bottles, etc., stopper for, D. H. Murphy	194,924
Can, oil, W. Y. Horne	194,821
Condenser for fractional distillation, F. M. Young.	194,856
Dental engine, hand piece, E. T. Starr	194,850
Funnel, measuring, J. N. Berg	194,887
Liquid measures, cover for, C. C. Redmond	194,784
Nursing bottle, I. Bullard	194,859
Oil tank, T. Shaw	194,847
Paints, striping tool for, L. Homann	194,912
Splints, process of manufacturing felted surgeons', D. Ahl	194,800

Sept. 11th.

Bottle-closing device, W. H. Hicks	195,127
" " "	195,128
Carbonate of soda, manufacture of granulated crystalline, J. Mactear	195,142
Compound, detergent, G. P. Cole	194,990
Dental mallet, pneumatic, S. W. Dennis	195,102
Eye-shade, self-adjusting, T. A. Platt	195,045
Eye-glass frame, Wilson & Meigs	195,193
Hog-cholera medicine, G. Preisendanz	195,165
Label-holder, W. H. Somers	195,178
Optometer, Johnson & Conrath	195,135
Saccharine juices, clarifying, Walker & Patterson.	195,190
Triturating machine, M. Golding	195,120

Sept. 18th.

Bath-tub, insulated, W. J. Patton	195,388
Charm, perfumed, C. A. Atkinson	195,324
Cooling or disinfecting the air of rooms, B. W. James	195,374
Evaporating pan, H. W. Hiscock	195,366
Exercising machine, L. L. Atwater	195,247
Fat, purifying raw animal, I. Mayer	195,297
Filter, liquid, C. F. Vent	195,423
Spirits, apparatus for rectifying, J. Kast	195,376

Sept. 25th.

Bath apparatus, vapor, J. V. Hirley	195,448
Bath, shower, J. R. R. Morford	195,523
Bed-pan, C. S. Merriman	195,521
Bottle-stopper, C. S. Barnard	195,473
Bottle-stopper, F. Doll	195,587
Distilling petroleum, apparatus for, H. C. Wood.	195,652
Evaporating pan, C. McCauley	195,517
Eye-glass support, F. H. Moore	195,629
Gum, preparation of chewing, R. Cotter	195,579
Medicinal compound, M. C. Peden	195,531
Painting machine, J. S. Mills	195,628
Tin foil, manufacture of	195,490
Truss, hernia, L. T. J. Lubin (reissue)	7,896

ITEMS.

College of Pharmacy of the City of New York.—The class attending the present session is the largest the college ever had. The advantages offered to the students, and the spirit of revival which permeates the pharmaceutical world, have both been instrumental in bringing about this result. It is confidently expected that the graduating class of this session will be equal, if not superior, in general excellence to any previous one.

It will be remembered that the college, some time ago, took the necessary steps to procure suitable balances and standard metric and troy weights for the purpose of enabling the pharmacists of New York and vicinity to have their weights verified. The Board of Pharmacy of the City and County of New York will in a short time issue a circular, calling upon the pharmacists to avail themselves of this opportunity, and thereby to prevent the possibility of another attempt, such as was made during the last session of the Legislature, to secure the enactment of a special law to regulate druggists' weights and measures.

Professor Geo. A. Smyth, of Andover, a pupil of Bunsen, has been appointed to the chair of Chemistry, Mineralogy, and Metallurgy in the University of Vermont.

M. Bavay, Professor of Pharmacy at the French Naval Academy, has been appointed Chevalier of the Legion of Honor.

M. Asselin, of Paris, the well-known publisher of medical works, is recently deceased.

Dr. Alfred S. Taylor, who has for forty-six years occupied the chair of Lecturer on Medical Jurisprudence and Toxicology in Guy's Hospital, has recently resigned his office. From 1832 to 1870—thirty-eight years—he was also Lecturer on Chemistry.

A National Meeting (sixth) of the manufacturers of mineral waters was held in London on the 23d of October. During two days an exhibition was held of soda-water machinery, and was followed by a dinner.

Prof. George Hadley, of Buffalo, well known as a chemist, died on the 16th of October.

He was the son of Dr. James Hadley, who for a number of years was the Professor of Chemistry in the former "Western College of Physicians and Surgeons" (Fairfield, N. Y.), and subsequently the first Professor of Chemistry in the Buffalo Medical College. George had two brothers, who, like his father and himself, were distinguished for their scholarly attainments; one (now deceased) having been a teacher of languages in Yale College.

Dr. Hadley graduated in medicine at the Fairfield School in 1840, and succeeded his father in the Buffalo Medical College as Professor of Chemistry and Pharmacy. Throughout his professional career he was noted as a modest and retiring, but profound student. He was very clear as a lecturer, and remarkably successful in his illustrative experiments. He acquired a wide reputation as an analytical chemist, and has written a number of papers, most of which have appeared in the *Buffalo Medical Journal.*

He leaves behind him a wife, several children, and a multitude of warm friends.

Dr. Oppenheim, Professor of Chemistry in the University of Westphalia, recently committed suicide with prussic acid at St. Leonard's, where his wife had but just died from consumption.

A Toulouse pharmacien was recently sentenced to one month's imprisonment, and his wife to three days' imprisonment, for having dispensed a draught into which arsenious acid had been put instead of phosphate of lime, a mistake which proved fatal.